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# Imaginative Tales

MAY 1958

ALL STORIES  
NEW AND  
COMPLETE

*William L. Hamling*

Editor

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# The Editor's View

Few of us in science fiction ever stop to examine—or re-examine—the scientific fundamentals which we use as a matter of course.

For example, in this dawning age of space travel (which we've been enjoying for decades via the printed page) we take for granted achieving escape velocity to leave Earth's surface. That villain, gravity, has been consigned to the s-f limbo of long-conquered problems. But as reality strikes home—as witness the satellites—it's time to take another look so we realize exactly what's going on.

We're going to keep you up to date each issue on just what is going on. And for a leadoff we've picked on the old bugaboo, gravity. Our feature article this issue was written by Hank Bott—who also does our book reviews in our companion s-f magazine, *Imagination*. Henry is a research engineer for the Minneapolis-Honeywell people. He's a graduate mathematician (something we need more of) and aside from his scientific training has been an s-f enthusiast for some 20 years. We told him to clarify this gravity business as much as possible, and he did just that. For future issues—of both *Tales* and *Madge*—we'll present a formidable lineup of science features, each timely, each highly definitive. A

good and necessary adjunct, we feel, to our space wanderings via the fiction route.

Some months ago we wrote an Editorial commenting on telescopes. We've now joined the ranks of owners. Ours is a 4¼ inch reflector (it only cost \$75 complete with tripod and lenses), and believe us, what a thrill to see the craters of the Moon loom up like nearby mountain ranges. Not to mention viewing Venus as a ball in space rather than a pinpoint of light in the sky. Our editorial point at the time was simply that for less than \$100 you can make the science in science fiction a bit more personal. If you're wondering how best to go about owning one too, look over any current issue of *The Scientific American*. You'll find various companies. Take your pick. It's an investment you won't regret. (We're now contemplating a 6" mirror!)

Trust you'll enjoy the top-notch stories in this month's lineup. And we'd like to point up our new artist, D. Bruce Berry. This lad has a unique style we're sure you'll enjoy. (Bruce is quite a flying saucer fan—and claims to have actually seen one. Perhaps it won't be too long before space ships from Earth will play tag with a few of them up yonder!).....with

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# GIANT KILLER

by

*Dwight V. Swain*

**Somehow humans were growing in size — to a point where death was inevitable. Storm had to find out why — and stay alive to tell it . . .**

**D**IAGRAM for disaster—  
*Item; Ceresta, Ceres.*

A scowling slattern surveyed her reflection in a full-length magnamirror. "Damn!"

"Huh? Somepin' wrong?" her husband inquired sleepily from the bed.

"Just this damn' cheap kirtle you gave me. It's shrunk."





*Item: Lacaya, Venus.*

A gaunt, white-haired First Colonist limped into the local Uni-trade. "Get me the manager! I want to see the manager!"

"What is it, sir?"

"My feet are killing me, that's what! Your thick-headed sizer sold me shoes a good half-inch too short."

*Item: Bragovits Barracks, 10.*

"It ain't my fault, sergeant, honest. My fingers are all swole up. I can't even get 'em into the brush-slots on the Paulsinis this past week."

*Item: SDC Camp No. 7, Titan.*

"Stell, I'm just a mine-mek; I can't afford this kind of thing! This food-sheet for last cycle comes to more than half my pay—three times what it's ever been, up to now."

*Item: Port Desha, Mars.*

"All right, which one of you wise guys sneaked in this midget seat? I can't kick this tin can off for Mercury if I can't get down at the controls."

*Item: Vidox newscast, Luna.*

"...so it looks like the promotion boys really mean it when they say Lunar climate builds you up! Yes, sir, every man, woman and child on this whole satellite's grown an average of nearly six inches since last cycle..."

*Item: Minutes of Interplanetary*

*Biogenetic Society Emergency Conference, Terra.*

"...and the members of the human race, wheresoever located in our solar system, are increasing in size at the utterly fantastic rate of at least two inches per Earth week. Many have already passed the nine-foot mark..."

"...Quite correct, sir. I see it as a major disaster. It renders our whole civilization obsolete. A nine-foot man can't sleep in a six-foot bed, nor work at a four-foot bench, nor travel in spaceships or auto-trans designed for people of normal size."

"...which brings us to the key issue, gentlemen: I don't care if colonists *are* starving in The Belt, or going naked on Mercury. It's the future of the race I'm thinking of—and I'll confess I'm not certain we'll survive, even here on Earth..."

*Item: Majority Report, FedGov Division of Health and Welfare Subcommittee on Human Growth.*

"...extreme stimulation of the human endocrine system is, of course, obviously the cause of the unprecedented growth. But the source of that stimulation remains undetermined despite all efforts to ascertain it..."

*Item: Minority report, FedGov Division of Health and Welfare Subcommittee on Human Growth.*

“ . . . and we disagree with the majority report not so much in what it says as in what it fails to state. Specifically, we find it impossible to ignore the clear-cut fact that of all life-forms in our solar system, only man and the rare, ten-tentacled Martian dotol have increased in size. Even more important, the majority report makes no mention whatever of the unique correlation noted between the current spurt in human growth and the movement into our solar family of an allegedly dead world (tentatively named Cerberus III) from some other system. Numerous authorities have publicly stated their conviction that this correlation is based on more than mere coincidence. Communications experts also have reported evidence that certain beamed electromagnetic waves are originating on this encroaching planet. . . .”

*Item: Workbook entry, Human Growth Project, Humanics Research Laboratory, Unltd., Korsaw, Ganymede.*

“ . . . so, what with 12-foot humans now a commonplace, it becomes more and more apparent that the so-called ‘square cube law’ is more honored in the hypothesis than in the proof. Tests to date indicate that compensatory increases in endocrine secretion are resulting in somatic mutation and

adaptive mitosis. . . .”

*Item: Broadcast message, directionally ascertained to have originated on Cerberus III:*

“Creatures of this system! We call upon you to surrender! Your worlds shall be ours. Resistance is futile. Do not let false pride or delusions of duty or loyalty lead you to foolish gestures. If you love your homes, your lives, your wives, your children, surrender. . . .”

## CHAPTER I

IT WAS PERHAPS the strangest meeting ever to be held at Venus Metropole.

Because no building could conveniently house an assemblage of ten-and twelve-footers, the gathering was scheduled for the long twilight hours, and in a bowl-shaped hollow in the hills just west of the Ingling hydroponic tubes.

Yet though every effort was made to keep time and place a secret, word inevitably leaked out, to draw hordes of spectators from throughout the vast administrative complex. By ones and twos they came; and then by dozens and by hundreds—men, women, young, old, high-ranking and of no rank whatever. The hollow was already a jabbering, milling mass of humanity a good half hour before the appointed time.

The clothing problem manifested itself in weird and wondrous ways. Fabrics, plastics, synthomelds—all were to be seen. Plenty of the garments showed an ancestry that traced straight back to drapes or blankets. Tailoring had fallen to that rudimentary level where anything that covered nakedness was acceptable.

As the hour set for the meeting drew nearer, four companies of FedGov guards—identifiable by rank-and-service armbands only, now that growth had reduced their uniforms to patchwork—marched onto the scene and proceeded to a point close to the crest of the steepest of the hills that ringed the hollow. Each man of the first unit carried a length of tellurium scaffold-framing. With swift efficiency, they fitted these strips together, erecting a small platform.

A swarthy, dark-haired, dark-mustached man promptly scrambled atop the completed rostrum. Of medium height—perhaps eleven feet—he had the solid build and musculature of an athlete. His posture bespoke a military background.

Even more impressive, he wore, not rags and tatters, but the complete, precisely-crafted, spick-and-span uniform of a FedGov general.

Coming erect, he flung up both hands in a commanding gesture.

The crowd's hubbub quieted a little.

"Council members!" the man on the platform roared in a tremendous voice. "Members of the Interplanetary Coordinating Council! Step forward and identify yourselves!"

New cries; new chaos. The FedGov guards fanned out about the platform in a human wall, pressing back the multitude.

Scattered members of the throng, in turn, pushed towards the scaffold, waving identification tabs. In each such case, guards checked the tab, then parted ranks to admit its bearer.

Then, at last, no further tabs were lifted. Those individuals identified as council members stood huddled in the guard-ringed area.

Now the man on the platform again gestured for silence.

"Most of you know me," he clipped. "For those who don't, I'm General Dylan Wassek, military rep for Mercury. I've called this emergency meeting of the council in my capacity as acting high commissioner of the FedGov's Interplanetary Defense Department."

A spatter of applause rose from the crowd.

The general gave no sign he even heard it. "Under FedGov security regulations, I'm authorized

to deny public access to any Coordinating Council meeting. Therefore, in my capacity as acting commissioner of defense, I specifically close today's session to all save properly accredited Council members." To the troops: "Guards! Clear the area!"

For an instant, unbelieving silence fell upon the crowd. Then, like a gathering storm, voices rose in an angry rumble.

The guards exchanged uneasy glances. Their efforts to push back the multitude were considerably less than eager.

The general: "Call yourselves soldiers? Shove them out, do you hear me?"

Officers shouted. Sergeants snarled. Grimly, knots of guardsmen lunged against the sullen wall that was the crowd. Here and there along the line, dozens of small fights and scufflings arose. Blows were struck, stones thrown, curses mouthed. Somewhere a woman's scream rose shrilly.

"Move them out, I said!"

For the first time, the troops really put their backs into their work. The scufflings merged and spread. Men went down. A guard lurched back, blood streaming from a gash along his temple. Sullenness gave way to surging anger.

"Move them! Move them!" Wassek's bull-throated roar drove

the guards like a whiplash.

But now, suddenly, new sound blared—erupting, incoherent sound, echoing so loud as to drown out general and tumult alike.

Wassek stopped short.

THE ROAR of noise resolved itself into a voice—a man's voice, harsh and commanding, tremendously amplified by a hand-held voco unit: "Call off your dogs, general! Four companies can't shove back the whole of Venus Metropole!"

The words bounced to and fro between the hills that rimmed the hollow. Deafening in their impact, they hammered at the combatants.

Men stopped fighting, drew apart. Scowling, hands on hips, Wassek continued to look this way and that.

Far up on the opposite slope, a figure shifted; threw a mocking salute. "Here I am, general!" Recklessness rang in the words.

Yet there was more to it than that. Not even the man's garb, the tattered remnants of a spaceman's blue-grey jacket that he wore, could detract from the air of authority and strength that somehow radiated from him. Lithe economy of movement showed in every move of his lean, hard body. When he thrust back his thick thatch of flame-red hair, blue eyes glinted

with a light that held not so much of rashness as of cool, insightful calculation.

Wassek stuck out his chin. "Mister, I warn you—"

The red-headed man swung his free hand in a quick, incisive gesture. "Let me do the warning, general," he clipped into the voco. "You can't hold your meeting if I turn this thing to top volume."

The crowd chortled delightedly. Wassek glowered. "Arrest that man!" he snapped.

"Don't make an ass of yourself, general!" — This from the red-headed man before the FedGov guards could even move. "You don't have manpower to back up that kind of order. At best, your troops can clear us out of this hollow. Send them beyond that, you'll spread your lines so thin we'll break through. And even if one of your boys should burn me down, long-range, someone else would grab this voco."

A flush crept up Wassek's thick neck and suffused his face. "As citizens, you people have a duty—"

"Of course we do, general. But we've got rights, too—the right to know just where we stand, for one thing."

A voice from the crowd: "That's right! What about the message?"

Another: "Cerberus III! Tell us about Cerberus!"

"Give us the facts! The facts!"

For a moment it seemed as if Wassek might leap from the platform and himself assault his hecklers. Then, suddenly, he threw back his head and laughed—a tremendous, frame-shaking bellow.

"All right, rack you!" he cried. "You want the facts; I'll give them to you."

"I won't waste time on the surrender message, except to say the reports you've heard are true. And yes, the transmitter's located on Cerberus; our finders pinpointed it."

"The question I'm here to bring before the Council now is this: As acting high commissioner of defense, what kind of answer am I to send back to these zombies, whoever or whatever they are? Do we take their threats at face value? Are we willing to negotiate? Do we give up, or do we fight?"

For the first time, no one in the crowd seemed eager to speak.

Wassek snorted. "It's an interesting problem, isn't it?" he observed with grim relish. "Just so you'll get the full picture, I probably should warn you that our food reserves are almost gone—not just here, but on every satellite and planet. Partly, that's because consumption's zoomed sky-high. But even more, it's because our processing equipment's design-

ed for use by smaller people. As giants, we're too clumsy, too heavy-handed, to operate or maintain or repair the machines that produce the things we eat and wear and work with. When it comes to fighting, we've managed to convert four light ships to a point where we still can use them. The rest of the FedGov space fleet might just as well be blown to atoms."

The silence echoed.

"What—?" Wassek manifested vast disbelief. "You mean you people don't have answers to all our problems? You don't know precisely what to do about the message, the invasion?"

The man with the voco cut in on Wassek's scorn. "Forget it, general. You didn't come all the way from Mercury to Venus just to throw that at the Council."

"I didn't?" Wassek's dark mustache bristled. "Then maybe you'd better tell me why I made the trip, since you seem to know so much about it."

The other shrugged. "Sure, if that's the way you want it." And then: "It's pretty obvious, isn't it? The high command's got some sort of plan. You want Council approval before you gamble on it."

"Oh?"

"Call me on it if I'm wrong. If I'm not, you might as well fill

in the details."

"Why should I? You people have taken over. You're running the show now."

"General Wassek!" This speaker stood inside the ring of troops, in the blocked-off area reserved for Coordinating Council members. A pudgy, waddling man, he spoke in a high voice tremulous with tension. "General, I happen to be chairman of the Council's Venus section. I'm sick and tired of you playing cat-and-mouse with us. Since you can't seem to control the crowd here, I'm in favor of going on regardless. I'm putting it to you straight: Just what does the high command propose to do about this situation?"

**W**ASSEK'S GLARE would have set ramp-cinders smouldering. "I hardly feel called upon—"

"Answer my question!"

A babble of voices, from inside the cordon and out alike: "That's right! Answer him! Answer!"

For a long moment the general stood with fists clenched, shoulders bulging out his smoothly-tailored uniform tunic.

Then, abruptly, he fell back a step. His words came stiff and brittle: "Revelation of military information to unauthorized persons is a violation of FedGov security regulations. Therefore I must re-

spectfully decline to answer."

Silence again, but more briefly. Then, in a rush, the crowd's cries rose anew. The fat, waddling Council member sputtered furiously. "You can't do this, general! You've got to answer—"

The voco blared in the same instant, so loud, men clapped hands to ears to dull its clangor: "Let him go hide under a rock, if he wants to. I'll answer for him!"

Troops and crowd alike swung round. As one, every eye focused on the lean redhead with the voco.

He leaned forward now, hurling his words like bullets, straight at Wassek.

"You've made some recommendations, haven't you, general?" he taunted. "You've said men have gotten too big to travel in present spacecraft. So you're asking that all ships be locked into robot missile circuits."

"Robot missile circuits—!" The fat councilman stared, then turned on Wassek. "General, is this true?"

The man with the voco: "Go ahead, general! Tell them all about it!—How you plan to load those ships with janite, every cubic inch they'll carry; how you're going to launch them all at Cerberus as projectiles!"

"Projectiles!" the pudgy Coordinating Council member gasped; and now the whole crowd was

rocking with him. "But then—I mean—our fleet—"

"—will be wiped out, of course," the lean, redheaded man lashed fiercely. "That's the whole idea of this, you see: Get rid of the Fed-Gov fleet; every carrier, every cruiser, every cargo ship. Throw them all at Cerberus. Destroy them!"

From Wassek, a bull-throated, incoherent roar of rage.

"You disagree, general? You don't like my version?"

"Your lies, you mean! Your distortions!" Wassek shook a furious fist. "What good's our fleet, when men stand ten and twelve feet tall? They can't even get aboard small carriers, let alone handle the controls!"

"But you still admit the truth of what I said, don't you? You'd throw all our ships at Cerberus? You'd load them with janite, blast them to atoms?"

Belligerently, Wassek moved to the edge of the platform. "You talk a lot, don't you?" he demanded. "What's your name? Who gave you the right to ask so many questions?"

"I thought we'd already settled that, general," the redheaded man retorted coolly. "As citizens—"

"Citizens of what?" A woman's voice, young and intense, angry. "This is Venus, not Io!"

The man with the voco stopped short; turned sharply.

The woman again, somewhere off to one side: "Tell us your name, why don't you? Let everyone know where you come from!" A toss of blonde hair; a youthful figure, moving in hot-blooded challenge. "He's John Storm, that's who he is! *Captain* John Storm, of the Jovian Entente's Orbital Patrol; address, Callisto!"

For the space of a second, no one moved; no one spoke.

Then, fiercely, Wassek cried, "Get him! Hold him!"

A roar from the crowd.

The man with the voco turned and ran.

## CHAPTER II

HIS TWO MOST URGENT tasks, John Storm decided as he ran, were, first, to save his own neck, if that were possible; and, second, to locate and learn more about the woman who'd betrayed him.

By way of furthering this program, he now speeded his pace and, simultaneously, dodged with sure agility between two would-be interceptors. The voco, flung like a palm-sized rock, downed a third assailant.

Only then, beyond this trio, another burly figure unexpectedly

flashed into view.

Storm cursed under his breath and tried to side-step.

His attacker swerved with him. Prehensile arms whipped up like the tentacles of a dotol.

With grim efficiency, Storm ducked out of the murderous embrace before it could tighten on him, then came up fast at such an angle as would bring a hard-driven elbow deep into the pit of his opponent's stomach.

A retching sound. Storm's antagonist lurched backwards.

Storm raced for the hill-crest.

But the moment's delay had been to the profit of his pursuers. Before, the area this far up the slope had held only a bare sprinkling of loiterers. Now, dozens more were sprinting towards Storm.

Panting, he changed course.

The pack at his heels fanned out to cover him. A knot of Wassek's troopers appeared ahead, already veering.

Storm swung wide; slowed a trifle.

Yelling, flailing, the crowd closed in.

Storm slowed still more. Narrow-eyed, he weighed the number of those about him, and their distance.

Out of nowhere, then, a man dived towards him.

It couldn't have been better



timed for Storm's purpose. Deftly, he stumbled—and then threw himself bodily under the feet of the nearest of his pursuers, in what appeared to be an appalling, joint-cracking fall.

Half a dozen or more of the mob sprawled down atop him, their legs knocked from under them. The rush of the rest swept still others into the pile-up, till the spot was a hillock of writhing, shrieking flesh.

Like lightning, Storm twisted, smashing a blow to the throat of the one man actually clinging to him.

The man sagged—limp, unconscious. Sliding from beneath him, Storm wormed flat along the ground under cover of the very mass and number and confusion of his assailants. His tell-tale blue-grey space jacket he ripped off and abandoned, then snatched a fallen hydrotech's hood to hide his betraying thatch of red hair. In seconds he was yards away from the spot where he'd fallen.

Elbowing his way to his feet, now, he stood with shoulders slumped and face averted, letting the fast-spreading crowd surge past him. By the time their first uncertainty as to his whereabouts began to manifest itself, he was already moving backwards. Before two minutes had passed, he'd reach-

ed the crest of a hill well to one side of his original position.

Some of the constriction left his chest. Still moving, still poised for instant action, he drifted through the fringes of the milling, babbling throng till he reached a point above Wassek's platform.

The general stood on the ground to one side of the scaffolding, the center of a knot of guard officers. He was talking to a woman . . . a young, blonde-haired woman, hardly more than a girl.

Storm sighed his relief. Drawing back into the shelter of an outcropping of kedda rock, he waited.

Below, General Wassek gestured and spoke sharply. Four guards and an officer promptly grouped themselves about the woman, about-faced, and escorted her off across the hollow.

Storm held his ground till they'd moved through a cleft between the hills beyond. Then, cutting through a different cleft, he followed.

It was easy trailing. Fifty minutes later, he was watching from an alleyway as the troopers delivered the girl to the living area of one of the administrative complexes.

It made a weird picture, a living illustration of what the increase in human growth meant, in practical terms. The woman's head reached well-nigh to the sills of

the building's second-story windows. She had to drop to her knees to crawl through the doorway.

The officer, in turn, posted two guards by the entrance, then led the other two on around the structure.

After a moment's hesitation, Storm followed, keeping as well under cover as his twelve-foot frame would permit.

There were two other doors into the building. The officer posted a guard at each, then himself went on back to the front.

Squatted behind a shed, Storm waited till a light came at one of the second-floor windows. A moment later, he glimpsed the girl herself, moving awkwardly within the cramped confines of the room.

Storm came erect. Coolly, he strode to the nearest entrance.

The guard turned at the first sound of footsteps. Scowling at Storm, he leveled a snub-barreled fire-gun—a weapon which, in view of the man's eleven feet of height, resembled a child's toy in his hand.

Storm smiled, nodded, kept coming.

"Hold it!" The trooper gestured with the fire-gun. "Where you think you're going?"

Storm shrugged. "Up to my apartment, obviously." He was close, now . . . almost close

enough . . .

The guard's face stiffened. His lips parted. The hand that held the gun thrust forward.

Whip-fast, Storm threw himself sidewise as a bolt of green fire flashed from the weapon's muzzle.

Another bolt blazed as he hit the ground. It came so close he could almost smell it. In sheer desperation, he charged the guard.

The third bolt seared his shoulder. But by then Storm was in close and striking. The guard clutched at him. The two of them went down together in a flurry of arms and legs and blows and curses.

**G** RIMLY, Storm smashed the top of his head into his opponent's face. His knee found a soft spot in the man's midriff. When the other tried to club him with the pistol, he caught the gun-wrist and levered it around so sharply that bones snapped.

The guard stiffened with pain, all efforts at defense momentarily forgotten.

A blow to the jaw. He went down and out.

Not even waiting to see whether or not the disturbance had been noted, Storm scooped up and pocketed the man's weapon, then dragged his victim into the build-

ing entry and, himself, crawled swiftly up the nearest ramp to the second floor.

Small sounds of movement drifted from the woman's apartment. Shoving open the door, Storm ducked in.

The woman knelt before a large magnesium chest. Clothing and a wild assortment of miscellany were piled on the floor all about her. She turned as Storm entered—eyes wide with sudden fright, lips atremble.

Wordless, Storm brought up the fire-gun.

The girl's eyes flicked to the weapon, then back to Storm's face. Color drained from her cheeks.

Storm said, "I don't want to use it; not unless you make me."

A visible tremor ran through the girl. She said nothing.

Moving on into the room, Storm shoved shut the door behind him, then sat down and leaned back. "All right. Tell me about it."

"I—I don't know what you mean."

Storm studied her unblinkingly. She was, he now observed, a truly pretty girl, even in her fright. A Terran, probably, from the slim proportions of her, and the blue eyes and rippling golden hair.

Nor was she the type endowed with no assets save her beauty. The reader-reels stacked on the

floor beside her only reaffirmed the quick, clean intelligence he'd already noted in her face.

"I haven't time for nonsense," he clipped at last. "What's your name?"

"Krylla Loy."

"From Earth?"

"Yes."

"How'd you know who I was?"

"I—saw you once. On Callisto."

"On Callisto?" Storm frowned, ever so slightly. "What were you doing there?"

The girl's blue eyes flickered. Then she shrugged. "I was working there."

"Go on, go on. At what?"

"I—was with the FedGov Cultural Mission."

"The Cultural Mission—!" Storm rocked back. "You mean, you were one of that bunch we booted out?"

A spark lighted, deep in the blue eyes. "If that's the way you want to phrase it."

"That's the way, all right." Of a sudden, and in spite of himself, Storm found that he was grinning. "So. You were one of those poor suckers the Inner Planet caucus sent out to civilize the heathen!—Only then it turned out the heathen didn't want to be civilized, so you were stuck."

Color came to the girl's cheeks. "It's hardly a laughing matter!"

"I'll say it isn't," Storm grunted. "Some of us in this thrice-racked, triple-regimented solar system still take our independence seriously. We figure it's worth a good deal more than all the FedGov's free beamed power and cultural missions. We know our worlds and how we want them, and we intend to keep them that way."

From the girl, tight-lipped silence.

Storm got to his knees. "Thanks for clearing things up, anyhow."

"Who says I have?"

"How can you say you haven't? You got kicked out of Jupiter's orbit. That set you steaming. Then I came along, fresh in from Calisto, so you blew the whistle."

"You really believe that? You think that's all there is to it?"

"You mean it isn't?"

The girl's body twisted under the patchwork that garbed it. "I mean not a word of it's true—not any part!" she burst out furiously. "Who but your racked Entente could benefit by all this business? How can we be sure Cerberus III has any part in it? For all I know, this whole growth change is a conspiracy—some sort of Jovian plot to upset the FedGov and break the power of the inner planets!"

"You may be right." Abruptly, Storm tugged open the door. "Come

on. We're wasting time."

"What—?"

Storm gestured brusquely. "I said come on. You're coming with me."

"I won't!"

"Would you rather I dragged you by the hair?"

"Oh . . ." Krylla Loy's slim hand flew to her throat.

Again, Storm gestured. After a moment's hesitation, she crept out into the hall ahead of him.

Then, down the ramp at the end of the corridor, someone cried out. There was a sudden shuffle of feet, an excited mumbling.

Storm cursed under his breath and doubled back.

Simultaneously, sound echoed from that ramp, too.

**S**TORM CAUGHT Krylla by the wrist; gestured wordlessly to her apartment. In silence, she preceded him through the doorway.

Closing it noiselessly behind them, he stood by it, fire-gun in hand, waiting.

The shufflings and mumbings reached the corridor outside. Heavy knuckles beat a tattoo on the door.

Storm held his breath. Beside him, Krylla suddenly was shivering and shaking.

Again, the knock. The lock rattled. A voice rose to a bellow: "All right, Miss Loy! Open up! We

know you're in there!"

For the fraction of a second, Storm stood rigid. Then, swiftly, he crossed to the window through which he'd first seen the girl.

The casement was too small for any twelve-footer's body.

The hammering at the door grew louder. "Open up, you! Open up!" Storm pivoted.

There was the chest, the over-size magnesium box at which Krylla Loy had been kneeling when he entered.

Bent well-nigh double though he was, Storm reached it in two strides.

The case was nearly empty. Stepping over its side, Storm wedged his body down into its confines, then lowered the lid atop him.

For an instant, it seemed that he could never make it. Then, sweating and straining, he managed to force himself down yet another inch, so that the chest's top was almost closed above him. To Krylla, in a hoarse whisper, he said, "I'll have to trust you."

Which was absurd on the face of it, and he knew it. If she wanted to betray him, there was nothing, but nothing, he could do.

Now there were sounds of movement as she crossed to the door; the click of the lock as she threw back the bolt.

A man's voice, heavy and sus-

picious: "What's the idea? We been waitin' ten minutes."

"And I've been doing a year's packing," the girl retorted acidly. "If you think it's easy for me, being pulled out of here on an hour's notice—"

A sour grunt was her only answer. Sweating, cramping, icy with tension, Storm could glimpse only vague movement through the slit he'd held open between the chest's lid and wall.

Then a body came close; a man's body, from its width. A hoarse male voice said, "This chest—it goes?"

And Krylla: "That's right."

Like an echo, weight came down upon Storm—blotting out the last trace of light, crushing him even deeper into the box. Before he could react, a latch clicked . . . then another . . . another . . .

Krylla's voice, faint and as if far away: "—yes, I know it's heavy. But the things in it—they're precious to me. So please do try to be a little careful—"

The chest moved, then, with sudden violence, and all at once Storm's ears were ringing.

Numbly, he wondered if it could be with Krylla's silent laughter.

### CHAPTER III

OXYGEN: that was the problem. Oxygen, to liberate

energy for living; oxygen, to keep the metabolic process running; oxygen, to replace the carbon dioxide fast accumulating in tissue and cells and blood.

Oxygen, at a time and in a place where none was to be had.

Again, cramped in the metal case, Storm shifted. Every minute, breathing became more of a struggle. Desperately, he tried to ease the strain on his protesting lungs.

Yet still the great chest bumped and jolted. There was the jerk of starts, of stops, of movement. Brakes squealed; wheels rumbled. Half a dozen times Storm found himself jarred back against his prison's walls with stunning, bruising force.

Now a sort of drunkenness came upon him—a confusion of senses, a lightheadedness in which the box took on strange, kaleidoscopic colors and walls and constriction gave way to a weird sense of boundless space and flying free.

Numbly, in a tiny, lost corner of his brain, Storm wondered if he'd waited too long—if he'd reached that fatal point where death would wrap its silken shroud about him before he could muster strength to fight his way clear of his metal cell.

Almost in the same moment, the jouncing and the sense of movement halted. The chest slammed

down with a bone-shattering thud.

For the fraction of a second, Storm tried to bide his time; to wait, to listen. But the agony in his lungs now was too great to bear restraint. Regardless of circumstance, no matter what happened afterward, he knew he must get out now, this instant.

With a tremendous effort, then, he drew himself together—sliding his hips back, bowing his head forward, so that he could bring the full spread of his shoulders to bear against the chest's lid.

A last deep, desperate breath. A heave upwards.

The chest's lid didn't even quiver.

More breaths, hoarse and shallow. Twisting, contorting, Storm worked his hips forward till his back was on the bottom of the box, his feet cramped flat against the lid. Then, once again, he heaved and strained.

To no avail. The chest held tight and solid as any vault.

New muscle spasms racked Storm. In a sort of frenzy, he ran shaking fingers along the chest's front wall in the vicinity of the latches.

Not even a rivet-head.

Cursing, Storm tugged out the firegun he'd taken from the guard; leveled it at the far end of the box.

—Fire-bolts, in a chest made of magnesium?

Storm stopped short, shuddering, even as his finger tightened on the trigger. The whole box would explode into flame like a Palmson torch, long before the arc seared through the panel! And if it didn't, what little oxygen the case still contained would be consumed by the bolts.

Storm let go of the fire-gun. It fell, clanging on metal in the darkness.

Involuntarily, Storm stiffened. Writhing as far to one side as he could get, he clawed feverishly at the bottom of the box.

The smooth slab of heavy-gauge magnesium sheeting. Cloths, clothes, papers, a comb. Finally, the fire-gun.

Stiff-fingered, Storm lifted the weapon; dropped it again.

A dull metallic thud. No ringing, no resonance, no clang.

In furious haste, Storm pawed over the litter on the chest's bottom as far as he could reach.

A reader-reel, a sonodisc. More clothes, more papers, more woman's miscellany.

Then, suddenly, flat on the bottom and tight against the front wall, his fingers grazed a thin, flat, convex thing like a ruler, somewhat more than a foot long and perhaps two inches wide.

Storm's heart leaped. Clumsy, fumbling, he tried without avail to get a grip on the strip, then at last succeeded in working a thumbnail under it and lifting.

The weight told him it wasn't magnesium. The shape and the razor-sharp diagonal chisel edge across one end left him in no doubt as to its purpose. Panting for breath, sagging with fatigue, paying no heed to noise or danger, he drove the point of the thing into the chest's front wall close by the middle latch.

The tool sliced the magnesium like a rotocutter ripping balsa. A thick metal shaving sheared away.

Storm slashed again . . . again . . . again . . .

Then, when it seemed he couldn't lift his arms for even one more stroke, the tool's point gouged through into light. Storm dropped the bar. Pressing his mouth to the hole, he sucked air into his lungs in great, sobbing gasps.

But the gash let in sound as well as air and light. Storm caught an echo of footsteps, the twang and resonance of a distant voice.

**W**RENCHING and straining, he tried to peer out. But cramped up as he was, he couldn't bring his eye close enough to the hole to see more than a section of drab grey wall.

But the sounds, so close, brooked no delay. Grimly, he picked up the bar and once more set to work.

He handled the tool more cautiously this time, cutting with shorter strokes and taking pains not to bang the wall of the chest.

Then, at last, the orifice was large enough for him to reach out and grope warily for the latch.

It proved to be off to one side, and locked. But a couple of quick twists with the bar, used this time as a jimmy, snapped the catch.

More sounds, now. More echoes and whispers and thuds and rhythms.

Tension tightened Storm's muscles. Squirming down onto his back once more, he brought up his feet and had another try at forcing the lid.

The first thrust, nothing happened. The second, metal creaked protest. The third, the latch at the far end of the box gave way with a sharp *ping!*

In seconds, Storm was lurching from the chest.

The room in which he found himself had the angled metal bulkheads of a spaceship cargo chamber.

Which was impossible, of course, for by General Wassek's own statement, the entire FedGov fleet counted only four ships fitted for

use by the currently gargantuan members of the human race.

Then, before Storm could recover from that shock, a sound of hurrying feet spilled through the chamber's half-open doorway. They were coming nearer by the second. Hastily, Storm drew his fire-gun and backed into the store-room's least conspicuous corner.

The next instant, the door banged back on its hinges. Two spacemen, neatly uniformed for all their size, hurried in, then stopped short, staring at the open chest.

Storm said, "Don't move!"

"What—?" In spite of the command, the head of the man in front snapped round. And then, with a swift air of relief as he saw Storm: "Oh, you! Thank the star-stones!"

It was Storm's turn to stare. "I don't get you."

"You're John Storm, aren't you?"

"Yes."

The other shrugged. "Well, it's that simple. We were sent to haul you out of that chest, take you to Wassek."

"To Wassek—I?"

"You mean you didn't know?" The spaceman looked bewildered. "But—I thought—"

Storm said quickly, "Don't worry about it." And then, gesturing with the fire-gun: "Besides, we



wouldn't want to disappoint General Wassek, would we? So we'll go to his quarters, just exactly the way he ordered, and you'll both live to a ripe old age so long as you keep your mouths shut and remember I'm holding this arc-projector on you."

The two spacemen exchanged unhappy glances. Pivoting, they moved ahead of Storm out the door.

Masking the fire-gun beneath his tunic, he kept close on their heels. Together, they walked perhaps 120 degrees along a curving corridor, entered a shaft-lift, rode it up at least a dozen levels, left it for another tubelike hallway, and finally paused at a heavy door. The few crew members they passed en route paid no attention to them.

Now Storm jerked his head in the direction of the portal. "Make it good, friends," he said softly. "For your own sakes, make it good."

Nodding wordlessly, one of the spacemen pressed a button set in the door-frame. After a second's delay, the heavy slab swung open.

Coolly, Storm herded his two prisoners across the threshold so that they shielded him as he entered.

Wassek sat at a desk at the far end of the room, studying a stack

of papers. He was alone.

Storm waited till the automatic door had shut. Then, shoving his captives violently in the direction of the general, he leaped to one side and brought out the fire-gun in a single flow of motion, so that he had all three of his companions covered.

The momentary scramble brought Wassek's head up. Rising with no apparent notice of the fire-gun, he came quickly from behind the desk and strode towards Storm, right hand extended. "Captain Storm! A pleasure to see you!"

Storm's jaw dropped. He backed hastily. "Stand away, rack it! I don't want to burn you!"

"Of course you don't," Wassek chuckled. "You'd be an utter fool to do it. So why don't you just put away that burner? Talk's what you and I need; not weapons."

"I wish it were as simple as that," Storm retorted grimly. "For my money, though, I think things may go better if you'll just remember that I've got the gun, and stand back and answer questions."

"Oh, I see." The general smiled, a trifle thinly. "You mean you're in command of the situation; I'm your prisoner."

Storm stared at him narrow-eyed. "Something's wrong here. You're not acting right."

"I don't make a good supplicant, you mean?" the other chuckled. And then, with a shrug: "You're right, of course. I'm hardly likely to let you twist my arm in my own office."

Storm fell back a step; flung a quick glance about him.

"Look overhead. The tubes are what you need to watch," Wassek observed helpfully. "Not that it will do you any good. They'll paralyze you before you can possibly pull that fire-gun's trigger." He raised his voice. "Show him, sergeant."

OVERHEAD, there was a flicker of movement. Storm glimpsed yawning paratubes; a dark face laughing through a rectangular slot that had opened in the ceiling.

Again Wassek extended his hand—palm up, this time. "I'll have the gun now, please."

Stonily, Storm handed it over.

"Thank you, sir." Wassek stepped to his desk. Pressing the door-button, he turned to the two spacemen who had been Storm's prisoners. "You two can go now." To the man overhead: "I won't need you for a while, Sergeant. Take a break."

A panel slid shut across the ceiling slot. The spaceman left the room.

When the door had closed behind them, Wassek again faced Storm, and gestured to a chair. "So, captain. Sit down. Let's talk."

Storm said, "I don't like having my arm twisted, either."

"Ho!" whooped the general. His swarthy face split in a grin. "Captain, you're priceless! I'm glad you're going to be on my side."

He swept the fire-gun from his desk; tossed it to Storm. "Here, take this racked thing."

Storm rocked back, juggling the weapon. "What—?"

"I'm giving you back your gun. Your arm's untwisted." Wassek dropped down in his chair, still chuckling; gestured. "Point it at me, if you want to. I don't care; not so long as we're alone."

Storm couldn't think of anything to say.

More soberly, now, Wassek leaned forward. "You see, I trust you, captain," he announced. "There's just one thing I care about where you're concerned."

"What's that?"

"That we get together. That we understand each other."

"Why?"

"That's obvious, isn't it?" The general's heavy shoulders lifted in a shrug. "I need you. It's as simple as that."

Frowning, still unable to sort out his own reactions, Storm

tucked the fire-gun back beneath his tunic, then went over and sat down. "Considering what's happened to me in the past few hours, I'd say you've got a funny way of selling this cooperation package," he observed dryly. "Or are you going to try to convince me my troubles all were accidents?"

"On the contrary. I planned things that way." General Wassek leaned back; made a bridge of his fingers. "You see, Captain Storm, I need a special kind of man. Daring, initiative, intelligence—he's got to have all of them, in far greater quantity than the statistics say are likely to be found. Even more important, he must be judged completely reliable by the authorities of the Jovian Entente. So when that girl identified you at the Coordinating Council meeting—well, for me, it was a break that reached beyond my fondest dreams. The fact that you then went on from there—evading capture; reaching the girl; escaping from that chest and carrying the fight right to my own office—those things all confirm my judgment and convince me I'm right in picking you to help me."

Storm's frown deepened. "Leaving me out of it, what do you plan to do with your man, once you find him?"

"I'll answer that question with

another, captain: Why'd you come to Venus?"

"You're getting over on the rhetorical side there, aren't you, general? Or haven't you guessed how the Entente feels about this scheme of yours to fire the whole FedGov at Cérberus as robot missiles?"

"And why does the Entente feel that way?"

"It could be we're not convinced Cerberus has anything to do with this spurt in human growth."

"Precisely," Wassek nodded. "Like all the rest of us, you know the increase must be the result of some sort of endocrine stimulation, but you're not at all sure as to the stimulant or the agency through which it works. It may be chemical reaction, radiation, some new type of virus. We may take it in through the air we breathe or the food we eat or the ground we walk on. And it may come from any planet in or out of the system, or none at all. So why pick on poor old Cerberus? Why throw away our precious, hard-built fleet?"

Storm rubbed his cheek. "It sounds to me like you were making a good case for our position."

"Perhaps." A pause, while Wassek traced geometric patterns on the desk with his forefinger. "Tell me, captain: What would you do

about this situation, if you sat in my place as high commissioner of defense?"

"I wouldn't fire the entire Fed-Gov fleet at Cerberus; that's for certain."

"I know. But what *would* you do? —And our research program's already stepped up as high as it can go, so don't bother to suggest that."

"You're safe there. Research isn't my line."

"So?"

"So what would I do?" Storm studied the general thoughtfully for a moment. "You know, now that you ask, I almost hesitate to tell you. It seems too impossible you wouldn't already have tried it."

"Impossible or not—"

"All right, I'll say it." Storm thrust his thumbs into his belt. "The sensible thing to do, obviously, is to send a ship—one ship, not a whole fleet—to Cerberus to reconnoiter, before you even think of blasting."

A wry smile flickered at the corners of the general's mouth. He said nothing.

"Well, what about it?" Storm demanded. "It's plain enough, isn't it? Someone on your staff must have thought about it."

Wassek heaved himself up from his chair, still not answering. Hands locked behind him, he paced to

and fro.

Then, abruptly, he wheeled.

"You're right, captain. We thought of it," he said in a strange, flat, toneless voice. "As a matter of fact, we not only thought about it; we sent three ships to Cerberus, one after another."

"And—?"

"We've never heard from any of them again."

FOR A LONG moment, the silence echoed.

At last Storm, too, rose; faced the general. "Why didn't you tell us?" he demanded. "Why keep this a secret? Why leave us in doubt?"

Of a sudden, weary lines etched the other's face. He stared away, past Storm, as if he didn't want their eyes to meet. "What do you know about me, captain?"

"About you—?" Storm groped. "Well, you come from Mercury, and—"

"You've already hit the only fact that counts," the general cut in. "I'm Mercurian by birth." And then: "Have you ever visited Mercury, Captain Storm?"

"Yes, briefly."

"What was your reaction?"

"I—well, I guess I prefer Calisto."

"You prefer Callisto!" Wassek gave vent to an angry snort.

"There's a euphemism to end all euphemisms, captain! You know as well as I do what Mercury is: the hell-hole of our system, so close to the sun that it's only by piling engineering miracles one on top of the other that it even can sustain human life. As a system power station, a relay point from which to beam out broadcast energy to all the other planets, it's ideal. As a place to live, it's damnation." A pause; a tightening of the lips.

"And yet—people do live there."

"Yes."

"A full half-billion people, captain. That's how many men and women and children live on Mercury, grinding out the years to keep thermoturbines and reactors and projectors running so their cousins on all the other satellites and planets won't ever lack for power.

"The only trouble is, Mercury makes no pretense of being self-sufficient. Everything except energy has to be imported. Without those imports, that half-billion people would be starving to death within a year."

Storm held his silence.

"Those people deserve better than that, captain!" A sort of seething frenzy now rang in General Wassek's words. "No child should be forced to grow up in subterranean cities, on a world with

a surface temperature so hot that it melts lead. Artificial atmosphere's not the same as good, fresh air. Trees don't belong just on reader-reels, nor seas in murals. There's more to life than what's hacked out of plasticon or synthomelds or veldrene!"

Abruptly, the general broke off. The muscles along his heavy jaws worked, and he scrubbed the back of one hand across his thick, dark mustache.

"Pardon me, captain," he said finally, in a more controlled tone. "All I'm really trying to say is that this increase in man's size renders our space fleet useless. Which in turn means that the half-billion people on Mercury—my people—are inevitably doomed to die. But I don't dare tell them that in so many words, so I've hedged; I've kept those ships we sent to Cerberus a secret.

"It's also why I've no compunction about throwing everything we've got into this fight. I don't care what happens to our fleet. If destroying Cerberus brings man's growth back under control, we can always build more ships.

"The only question now is, is Cerberus the key?

"That's where you come in, captain. It's why I took it upon myself to run you through such a rigorous testing. I need the Jovian

Entente's help. Because unless Ganymede and Io and Europa and Callisto throw their ships in with the rest of the FedGov fleet as robot missiles, we can't hope to strike a crippling blow at Cerberus, let alone destroy it."

Storm stirred uneasily. "I'm sorry, general. I see your point. But I'm afraid you overestimated my influence."

"Your influence?" As earlier, General Wassek snorted. "Who cares about influence? What I need is evidence."

"You see, captain—I want you to make one last try at landing on Cerberus."

## CHAPTER IV

THERE WAS a sort of desperate urgency about the way the hand tugged and jerked at Storm's shoulder.

"Wake up!" the voice whispered again. "You must, you must! Please, captain—"

Storm shifted in the semi-darkness. For an instant, trapped in the grey never-never land on the fringe of consciousness, he thought he sensed rhythm, the vibration of flight.

Then that passed and he knew that the spaceship still stood ramped in its slot at Venus Metropole's great port. Blearily, he rose

on one elbow in his bunk, trying to shake the sleep from his eyes.

Slender fingers dug into his arm. "No noise! They mustn't hear us!"

It was a woman's voice. Storm blinked. "Krylla—?"

"Yes, yes." Small hands pressed him back down into the bunk. "Don't move. I can't stay more than a minute. But I had to see you, talk to you."

Again, Storm blinked. "But what—?"

"Don't talk! There's no time. Wassek would kill me if he found me here." The tremor in the girl's voice came close to panic.

Wordless, Storm lay back.

For a moment, taut silence. Then Krylla leaned close, her face a vague oval blur in the gloom. Her tone was so low Storm had to strain his ears to hear her: "How did you get to Venus?"

"How—?" Storm groped. "On a ship, of course—one of our patrol ships, the only one converted for giants. It slipped in on a beta beam and dropped me."

"Then it's not here now? It went away and left you?"

"Of course. My assignment was just to stir things up for Wassek, make sure he knew he couldn't push through his robot missile scheme without a fight from the Entente."

Silence again; an aching, echo-

ing sort of silence. Then Krylla's head came down onto her arms. The slim shoulders shook. "No ship, no ship. . . ." Her muffled voice was half sigh, half sob.

Bleakly, Storm stared down at her shadowy form. He made no effort to touch her. "What do you want with a ship?"

"Oh—!" The girl's head came up with a strange little jerk. "It's—I mean—I don't want a ship. It's for—for you."

"For me?"

"Yes, of course. So Wassek won't kill you."

The back of Storm's neck prickled. "Now, wait—"

"That tone! You're wondering if I'm insane, aren't you?" A shaky laugh, fading into sudden fierce intensity. Again the girl's nails dug into Storm's arm. "You've got to listen, captain—and you've got to believe me! The only reason General Wassek had me brought abroad here was for fear I'd tell some things I knew. You see, I had a friend, a man in the com-section on this ship. He said they couldn't contact Mars any more; that there hasn't been a radio or sonobeam signal from there in days."

"So?"

"Don't you see? The trouble's not on Cerberus, but Mars! That's where you've got to go! It's a

plot, a scheme to take over the whole Federation, and Wassek's in on it. He's Martian, you know—"

Storm said, "You're getting your stories mixed, Krylla. Wassek's Mercurian, not Martian; he told me so himself. And before you claim he's lying, I'll tell you that Patrol Headquarters briefed me on his background when they handed me this assignment."

"Oh. . ."

"Shall we try it again, Krylla? I wouldn't even mind too much if this time you stuck to the truth. For instance, back there at the meeting, why'd you tell Wassek my name?"

"I told you—"

"You told me a lot of nonsense, about on a level with that business of Wassek being a Martian."

"No, no!" On her knees now, Krylla Loy pressed close to the bunk; clutched Storm's head in a flurry of agitation. "Don't you understand, John? I'm trying to save your life—"

"Like when you walked off this afternoon and left me locked in that magnesium chest, you mean?"

"I knew you'd get out! I felt sure of it. I could have betrayed you to Wassek's men right then. But instead—"

"—Instead; you sealed me in there to smother!"

"But—"

"But you're still shooting angles. Is that it?" Bitterly, Storm jerked his hand free; gripped the girl's wrist. "Well, I'm tired of it! I don't know what you're up to, but whatever it is, I'll have no part of it."

Krylla seemed to shrink before his anger. She drew back. Then, slowly, straightening, she gestured to Storm's hand, still tight on her wrist. "If you'll just let go of me, I'll leave now," she informed him in a chill, calm voice. "You won't have to worry that I'll bother you again."

"Oh?" Storm made no move to release her.

"I said, let go of me!"

Instead of obeying, Storm swung his legs from the bunk, flipped on a light, arose, and strode towards the cabin's com-box, pulling the girl behind him.

She clutched at him with her free hand; scrambled up from her knees. "Wait! What are you going to do?"

"What do you think? It's time we found out what you're up to. I'm going to call Wassek."

"No—!"

"And why not?" Storm demanded harshly. "That bar, the one I cut out of your chest with—one of the crew tells me it's what they call a lock-jock on Terra, and possession alone's worth a term in

prison. Tie that to this visit here tonight, and I think it rates some questions."

He thumbed down the com-set's switch as he spoke.

A second switch clicked in response. "Yes, sir?" a man inquired politely.

Storm said, "That woman, Krylla Loy, seems to have something up her sleeve. She's in my cabin now. Maybe you better pass the word to General Wassek."

"Thank you, sir. I'll take care of it right away, sir."

Storm flipped off the com-set. Beside him, Krylla slumped to her knees again—head bowed, not speaking. Defeat was in her every line. Her blonde hair like a veil of spun gold, casting her face into shadow.

Storm turned from her quickly.

The next instant, pain lanced through his hand—the hand with which he held Krylla. Involuntarily, he let go of her wrist; jerked back.

The girl whirled away from him, out of reach, in a practically simultaneous movement. A reel-stand, deftly kicked, spun across the cramped space of the cabin and struck him in the shins. Lurching over it, off balance, he crashed to the floor. His hand was spouting blood now, where Krylla had bitten it. Before he could regain



his feet, she snatched open the door and darted out into the corridor beyond.

Cursing, Storm lunged after her.

She was nowhere in sight: On a gamble, he ran left down the hall—and crashed headlong into General Wassek and a pair of crewmen at the first intersecting passage.

In less than a minute, a voice on the battle amplifier put a stem-to-stern search plan into operation.

But they still hadn't found Krylla when the ship blasted off next morning. . .

**GENERAL WASSEK** said, "Good luck, captain. Don't let any wild Cerberean blondes bite you."

Laughing in spite of himself, Storm accepted the hand the swarthy Mercurian extended. "I'll try not to, general."

No further words were spoken. A little tense, a trifle awkward, Storm wedged himself through the hatchway of the heavy carrier in which he was to descend to Cerberus and went forward to the craft's specially-rebuilt oversize control seat.

Oversize or not, the seat still proved a tight squeeze for a man twelve feet tall. Too, it put him far out from the instrument panel

—an item which no one had bothered to re-scale to match the seat—so that it became necessary to lean forward to check the dials and indicators.

Which in turn meant he couldn't fasten the seat belts or close the safety clamps on head or shoulders. And that of course made him an ideal candidate for a broken neck.

Storm swore under his breath.

A voice on the com-set: "Secure hatch, carrier."

Storm threw the lever. Behind him and overhead, the heavy lid slammed into place.

The voice: "Adjust air-flow. . . test ramp-tubes. . .check power seals. . ."

Woodenly, Storm went through the routine, step by step.

A pause. Weary already, he leaned back.

Almost in the same moment, the carrier shifted. Quickly, Storm slid back the vision slot's cover plate, just in time to glimpse the loading track ahead as the little craft moved down it into the blackness of the tube.

Carrier entered tube. The slot went black. Again Storm checked his dials and ran his hands over the midget ship's controls.

An end to forward movement. A sort of vibrant thrumming, building up. Storm made it a point to breathe in slow and deep

and to draw his tongue back from between his teeth.

A sudden jerk. The feeling of giant hands clutching at his chest. With the same strange shock he'd felt so many times before, it dawned on Storm that he was staring blankly at the ceiling.

And that meant the carrier had been launched. . . that it was hurtling free in space.

Hastily, Storm bent forward and checked both direct-vision slot and visiscreen.

The heavens opened before him. The great FedGov ship from which the carrier had darted forth already was moving towards the lower left corner of the screen.

Directly ahead, the great iron-grey ball that was slowly-wheeling Cerberus loomed.

The com-box. "All rated, Storm? Everything squared out?"

"All square and rated."

"We'll close you out, then. No point to giving anyone you-know-where a finder line."

"Right. Check and close."

"Check."

The com-set went dead.

Narrow-eyed, Storm turned his full attention to the visiscreen.

Not that there was much to see. . . only a dully-glittering iron-grey ball rolling through the sky . . . an old world, a dead world, scarred and pockmarked and erod-

ed, with not even the smallest pocket of moisture or atmosphere visible anywhere.

How could a world like that upset the whole pattern of human growth?

Frowning, Storm swung the carrier into a long orbital arc, turned the visiscreen dial to maximum magnification, and settled down to yet more intensive study of Cerberus III.

But the closer the carrier swept, the less likelihood of life could Storm find. Beside this world, the bleak, barren rock of the asteroid belt qualified as paradise.

Another peculiarity: The visiscreen's magnification seemed to do no good. It was as if the carrier were moving away from Cerberus, not towards it.

Storm made a harsh sound deep in his throat and glanced at his controls.

They still were set for the orbital arc, the long, slow, circling approach.

Storm made a harsh sound deep back to a normal setting, one that would show the planet in normal relationship to the heavens instead of magnified.

Cerberus III occupied less than three-quarters of its original area on the screen.

**S**TORM WENT RIGID. Hastily, he checked his instruments a-

gain.

All correctly set. Yet moment by moment, Cerberus grew smaller on the screen.

Shaking off the shock, Storm adjusted the controls to bring the carrier back into the tight orbital arc he'd originally set.

Cerberus only grew smaller.

Sliding from his seat, Storm jerked the panel from the circuit case and peered in, manipulating the control levers the while.

One glance was enough. The levers were disconnected, the pilot circuits rewired around them.

Storm lurched up with a curse and reached for the emergency signal switch.

Behind him, a woman's voice said pleasantly, "Please don't, captain. I wouldn't want to have to hurt you."

Storm whirled.

Krylla Loy stood in the doorway that led to the stowage area. She held a paragon in her hand.

"You—!" Storm choked.

Krylla laughed. The blonde hair rippled. "Of course. You didn't think I'd given up, did you?"

"But these circuits—"

"—Are wired precisely the way I want them, captain. They're pre-set for our destination—a skill I learned a few years ago when I worked for a while at a robot missile center. I spent most of last

night on them, after I left you. —That is, that part of the night when I wasn't pretending to be a cargo case, so that Wassek's cut-throats wouldn't find me."

Storm glowered. "Do you think I'm going to let you get away with it?"

"I don't think you're going to have much choice about it, Captain Storm," the woman murmured, still smiling. "As a matter of fact, you ought to thank me for saving your life again."

"What—?"

"You should have seen that circuit case when I first got into it. Someone else had been working on it. The controls were disconnected, just like they are now, and the pilot circuits pre-set for Cerberus III and a head-on crash."

Storm said, "You tell too many different stories. Even if the truth was in you, I wouldn't believe it."

He turned a fraction as he spoke; let his hand stray towards the emergency signal switch under cover of his body.

Krylla Loy said, "In case you're wondering, I've set our course for Mars. Because whether you believe it or not, that's the key to this whole situation."

Storm's groping fingers touched the switch. Gently, he pressed down on it.

"Go ahead, captain. Throw it

all the way," Krylla's tone was so cool and unperturbed it froze him. "You see, that's another mechanism I found disconnected."

For an instant Storm stared at her, stiff with the fury of frustration. Then, savagely, he slammed down the switch.

Nothing happened.

"You see, captain?" The girl's blonde hair shimmered as she shook her head. Then: "Now, though—I'm sorry, but I'm afraid I just can't trust you to go along. So. . ."

Her finger tightened on the paragon's trigger.

Desperately, Storm tried to throw himself behind the control seat.

He was six feet too tall. He could almost feel the paragon's beam flare out, engulf him. Swirling and whirling, blackness closed in. . .

## CHAPTER V

THE NOTE SAID, "I'm Martian, not Terran. My people still live at Pontius. This was the only way I knew to get back to them. I'm sorry it upset things for you."

It bore no signature; needed none. The femininity of the handwriting was enough.

Wearily, Storm crumpled the

slip, slumped into the control seat, and for a moment rested his aching head in his hands. Then, drawing himself together, he leaned forward and began checking the carrier's instruments.

It was as he feared; the trip from Cerberus to Mars had been too long, too great a strain for carrier-weight components. The power seals were well-nigh burned out, the gravitational balance tubes beyond adjustment.

Storm said harsh things under his breath. Angrily, he snapped on the com-set and pressed the proper signal buttons.

Nothing happened.

Storm frowned. Again he thumbed down the buttons.

Still nothing.

Hitching forward, Storm slid from the seat and down onto the floor. Thumbing back the com-set panel catches, he lifted off the grillwork.

Blank emptiness. The transceptor mechanism in its entirety had been removed, leaving only the unit's shell, the casing.

Storm shoved back, rose, and after a moment, once more sagged into the control seat. The paragon's charge had left his body heavy, drained of energy. Even cursing seemed hardly worth the effort.

Now, as he sat there, the faintest

of whispering sounds drifted from behind him. Something slithered momentarily on metal.

Involuntarily, and in spite of all his lassitude, Storm stiffened.

The slithering came again, followed by a sort of fleeting patter, like the *whish* of shot spilled across a drumhead.

For an instant Storm held himself unmoving. Then, ever so carefully, he turned in his seat and peered back towards the carrier's open hatchway.

An eye met his—an eye big as his fist, red-rimmed and malevolent. Weird, multifaceted, insectile, it hung down through the entrance port, moving to and fro on the end of a long, slender, swaying stalk of dull green color.

Storm's scalp prickled. An inch at a time, he shifted, drawing his feet from beneath the instrument panel.

Then, just when it seemed the maneuver was successfully completed, his knee struck the com-set. Before he could move, the grillwork fell to the floor with a clatter.

Like lightning, the eyestalk whipped to one side. Two clawed tentacles flashed through the hatchway, rattling and slithering.

Storm snatched for the hatch-lever.

The heavy metal lid slammed

shut with a crash, shearing off eyestalk and tentacles alike. Oozing green-grey slime, writhing as if endowed with separate life, the severed members fell to the carrier's floor.

For the fraction of a second, Storm stared at them in horrified fascination. Then, still shuddering, he spun round and shoved back the cover of the vision slot.

The lens opened onto a typical Martian port area—bleak plains thick with reddish dust, spreading out in all directions from cinderstrewn ramping bays. Concrete runways along the edge of each niche led to a cluster of squat administration buildings off to one side; and beyond the buildings and adjoining cargo shelters there loomed the great, glistening plasticon atmosphere bubbles of a town.

Frowning, Storm snapped the viewer button over to the mobile side and turned the knob slowly.

Now, here and there, parked autotrans and cargo loaders came into focus. A cluster of wind-whipped b'sallah trees stuck up grotesquely from a narrow patch of grey-green lichens. Blue-and-gold FedGov flags fluttered from twin staffs, above Mars' own scarlet-spangled planetary banners.

Indeed, a typical Martian port area. Normal and representative in every way.

Except for one thing: It was a still life. Nowhere, nowhere, did any living human being appear.

A tiny chill ran through Storm. Swiftly, he adjusted the viewer to bring the exterior of the carrier itself under inspection.

Movement flickered, deep in the shadows at the ship's base. Storm sharpened the viewer's focus.

The next instant, he was staring at more eyestalks—a cluster of them, five all told. Long, clawed tentacles swirled and rippled like streamers of grass in the eddy of a swift-moving stream.

**A** RILL of icy sweat slid down Storm's spine. That thing out there—it was a ten-tentacled Martian dotol, beyond all doubt. . . poisonous, aggressive, deadly.

Also, what with tentacles a good six feet long, it was at least three or four times the normal size for its kind.

So creatures other than man were growing. . .

Grimly, Storm slapped shut the vision slot and, squatting, measured the com-set's empty case.

Ten minutes' search later, he knew without question that the transceptor mechanism was nowhere aboard.

Neither was the emergency ration kit.

Savagely, Storm cursed Krylla

Loy.

He acted quickly, after that, because he knew in his heart that if he didn't, he wouldn't act at all.

First, a fast check of his fire-gun's mechanism. Then a heave on the hatch-lever.

The heavy slab-lid swung up. Palms slick and cold with sweat, Storm gripped the hand-bars and dragged himself bodily through the exit.

But before he could clear his feet, the dotol swept up from the shadows, clawed tentacles slithering.

Clutching the hatch-lid left-handed, Storm snatched out his fire-gun and triggered a bolt.

A popping sound. The dotol's sinuous body burst open, like a sausage split over hot coals. Tentacles lashed in a frenzy.

Then, quite suddenly, it was over. The creature slid to the ground and lay there twitching.

Storm shivered anew. Leaping across the monster onto a walkway, he ran towards the administration center.

The plate over the door said **PORT OF PONTIUS**. Storm started to enter, then stopped just short of the threshold, stepped back, picked up a luggage wheel, and sent it spinning across the floor of the lobby.

Seemingly out of nowhere, two

huge dotols lunged at it.

Storm fired twice. The dotols died.

Red dust, settling slowly. Taut-nerved and wary, Storm moved in to the lobby. Swinging wide around anything which might conceivably conceal a dotol, he crossed to the inquiry desk.

A man's corpse lay behind it. Or rather, what the dotols had left of a man's corpse. Trying not to look at it, Storm swung the Pontius directoreel around to face him and thumbed down the "L" tab, then the "O" and the "Y."

There were seven families named Loy, but no Krylla was mentioned. Sourly, Storm jotted down the addresses and headed on towards the plastic domes, the town.

It proved a nerve-racking safari. The once-rare dotols seemed to have thrived and multiplied in their new, larger format. Four times, before he reached the locks, Storm found himself forced to run or shoot.

And not once did he see a living human being.

Inside the domes, it was even worse. The stench of death hung in the air, and dotols lurked round every corner. Unitrades with smashed fronts told of looting. Corpses strewed the streets like rubble after an earthquake—corpses dotol-lashed or dead of human vio-

lence; corpses with bellies that had bloated of starvation; corpses so tall that, living, they hadn't even been able to crawl into bed to die.

And it was into this place of utter horror that Krylla Loy had come, alone.

Tight-lipped, Storm quickened his pace.

The first address he checked now held a nest of dotols. He backed away from it with his flesh crawling, not even bothering—or daring—to enter.

Fire had gutted one dome. The failure of the dioxide jets to function told Storm more than words about how hard the city had been stricken in the days before death claimed it.

More important, the holocaust eliminated three addresses from his list.

The fifth home was sealed from the inside. Storm found a wrecking bar and battered down the door. But the stench that poured forth was such as to convince him that entry would be futile.

Five places, and still no Krylla Loy.

Raw-nerved and weary, Storm moved on to Number Six. He'd long since lost track of how many dotols he'd killed; how many more had nearly claimed his own life. Even his hopes of finding Krylla and the com-set were well-nigh

dead. He continued less out of any real expectation of success than from a morbidly stubborn determination to know the worst.

This area lay close to the edge of one of the smaller domes. Rifts in the plasticon let in the never-ending Martian wind, and red dust filmed everything, as if the whole sector were drenched with human blood.

**B**ONE-TIRED, Storm checked the cross-slot markers; located the building that he sought.

The autoportal here stood jammed, half open. A flurry of tentacles told of dotols just inside.

Storm stared at it in sullen silence, then pivoted and started back along his own track.

A moaning sound, faint yet somehow not too far distant.

Storm stopped short; turned sharply.

The sound came again—a human sound, alive with fear and horror, not just the ceaseless, fraying whisper of the wind.

The back of Storm's neck prickled. He shouted, "Krylla! Krylla, are you there?"

No answer.

Tight-lipped, Storm checked his fire-gun. Then, a slow step at a time, he approached the half-blocked door.

Stalked eyes gave him a cold

inspection. Clawed tentacles drew together; flexed and twined.

Storm hesitated. It was open to question whether a man his size could even squeeze past the autoportal. Too, the room beyond had an eight-foot ceiling. Once in, he'd be forced to move doubled over in a crouch, at best.

Add to that the hazard of the lurking dotols. . . Storm shook his head.

Only then, of a sudden, a woman's voice cried out: "No, no!"

With a curse, Storm lunged forward. . . threw a violent kick at the jammed door. The portal snapped back into its slot.

Simultaneously, a dotol swung down from the lintel, coming at Storm in a rush.

Storm leaped back and fired in a single motion; then threw himself sidewise and fired again.

An end to the monster. Cat-footed, Storm reapproached the doorway; peered inside.

A bare room—and no dotols. Doubling over, Storm entered and crossed to the first of the chamber's two inner doors. "Krylla!"

Silence, echoing.

Storm turned to the second door. Dropping to one knee, he leveled the fire-gun, then flung back the panel.

Another room—and dotols.

There were three of the things,



so far as Storm could see at first glance. All of them lunged at him at once.

Storm fired as fast as he could pull his weapon's trigger—and still had to leap back to avoid the straining tentacles of the last to die. The fetid odor of their ooze rose in his nostrils in sickening volume.

Paying it no heed, he once more stepped close to the doorway and scanned the inner room.

It was dim within; Storm couldn't see too clearly. But small, hysterical sounds of pain and strain guided his attention. Over to one side, a big plastic screen lay at an angle, jammed into an alcove. The noises seemed to come from behind it.

Storm scrubbed the sweat from his gun-hand; again surveyed the room.

He didn't like it. There was too much furniture, too little light.

From behind the screen, Krylla whispered, "John! John, I can't stand it any longer!"

The screen swayed, swung out. The girl crept from the cramped triangular area between it and the alcove wall and floor.

In the same instant, a giant dotol whipped up and over a divan.

Storm swung his fire-gun!

But the monster landed between him and Krylla. Any bolt he trig-

gered had as good a chance of killing girl as dotol.

By sheer reflex, Storm dived through the doorway, firing to one side of the monster.

The bolt seared the tips of two tentacles away. The dotol drew into a thrashing tangle, then swept round and lashed out at Storm.

Again, as if with dark intelligence, it had placed itself between man and girl. Storm couldn't shoot. Doubled over, stumbling, he threw himself sidewise.

But now the dotol raced towards him. A deadly clawed tentacle barely cleared his face.

Storm rocked back—tripped over a chair—crashed to the floor.

Another tentacle, scooping in low. Like a writhing, plastic-smooth cable, it slithered the length of Storm's forearm. The poison-claw struck at his hand.

The strike missed as Storm jerked back. But the claw hooked tight onto the barrel of the fire-gun. With a snap like a whip-crack, the tentacle retracted, jerking the weapon from Storm's sweat-slick fingers and hurling it the length of the room.

Storm cried out in pure fury, frustration.

Only then the dotol again hurled itself at him, and there was no time for anything but action. Desperately, Storm snatched up the

chair over which he'd tripped; threw it into the mass of lashing tentacles and eyestalks with all his might.

Frenzied jerkings and threshings. Seizing a second chair, Storm struck out at the closest of the dotol's baleful, luminous eyes.

The blow struck the stalk. Like a broken reed, it fell over, so that the eye dangled limply.

Another rush from the monster. Dodging, Storm slashed out with the chair, trying for a second eyestalk.

But this time, clawed tentacles met him. Seizing the chair, they tore it out of his grasp as if he were a baby.

Panting, Storm backed away. His hands were shaking with fatigue, the muscles in his calves cramping. Every step, his knees threatened to buckle beneath him.

THE DOTOL followed—in rushes, now, but with an air of deadly intentness. The horrid eyes swayed on their stalks, fixing Storm with their scrutiny. And always, always, there were the tentacles, switching and swishing, poison-claws ready. . .

Storm bumped a wall.

A swift shift from the dotol—a fainting, a darting.

Storm dodged right, following the wall.

Tentacles speared in again on his left. Again, Storm drew right.

Another rush from the monster—a bolder rush, this time, as if it now realized that its quarry was disarmed and harmless.

An angle in the wall, a turn outward. Storm fell back a quick step—and bumped against Krylla.

They were both in the alcove. Trapped, cut off, helpless.

The dotol's weird, multifaceted eyes gleamed balefully. There was a clatter of claws, a slithering of tentacles. Beside Storm, Krylla moaned in numb anguish.

He pushed hard against her—not looking at her, not daring to take his eyes off the dotol for even an instant. "Down, rack you!" he clipped. "Get back under that plastic!"

"No, no!"

"I said down!" Roughly, he shoved her back into the corner; tugged the heavy plastic screen around so it would shield her.

The dotol threw itself at him in the same instant.

By sheer instinct, Storm jerked up the plastic. Momentarily, the monster hung up on its lower edge.

Storm cried out in hoarse triumph. Violently, he wrenched the screen clear of the floor; drove it straight at the dotol.

The monster went over back-

wards, under the screen.

Letting go of the plastic, Storm flung himself on it, so that it crashed flat on the floor like a plank, pinning his hideous assailant beneath it. When a tentacle reached up over the edge and slashed at him, he swung clear and smashed his heavy space-boots down on a protruding eyestalk.

Then, at last, it was over, the dotol dead. Staggering with fatigue, Storm retrieved his fallen fire-gun, then turned on Krylla Loy.

She still lay in the corner where he had thrust her. Her face was sheet-white, devoid of expression. She didn't look at him.

Harshly, Storm said, "Well, where is it?"

"It—?" Only the girl's lips moved. It was all Storm could do to hear her.

"You know what I'm talking about. The com-set. The food."

"Oh. The food. . ." One slim hand shifted, ever so slightly. "I left it at the port. It was—so heavy."

"The com-set?"

"The com-set. The com-set. . ." The girl's voice trailed off. And though her expression didn't change nor her eyes flicker, two great tears welled and spilled down her cheeks.

Storm lashed out: "Do you think I chased you all this way just

to watch you cry, rack you? What I want's that com-set! Where is it?"

The tears flowed faster. The girl's shoulders began to shake. "The—the com-set—" Her hand moved in an awkward, uncertain gesture.

Storm followed it with his eyes. There, against the alcove wall, back where Krylla had first hidden, lay the remains of the transceptor mechanism. The electrostats were smashed flat, the condensers shattered, the frame twisted out of shape.

Krylla whispered, "I only took it so you couldn't contact Wassek till I'd had a chance to find my family. . . Only they're dead—my people, all of them—and then, in here—the dotol—the tentacles kept squeezing in underneath the screen, and I was so afraid, so I'd hit them, until—until—"

Her whole body convulsed. She crumpled forward.

A knot drew tight in the pit of John Storm's belly. He bit down hard; tried to tear his eyes away from the girl and her awful, anguished shaking.

But no matter how he strained and fought, he couldn't do it; and then, all at once, not quite knowing how, he himself was down, on his knees beside her—gripping her shoulders, lifting her, holding her

to him.

Where the words he spoke came from, he couldn't guess—they were as new to him as her:

"Krylla, Krylla—Forget what I said, Krylla. Forget it! I didn't come here for that damned comet! That was just an excuse. If equipment was what I wanted, I could have rounded it up at the port communications center. It was you I had to find. No matter what, I had to find you! I nearly went crazy, thinking of you and the dotols. I'd fight ten thousand of them before I'd let them get you—"

After awhile, Krylla stopped crying . . .

## CHAPTER VI

CERBERUS III: a dully-glittering iron-grey ball rolling through the sky . . . an old world, a dead world, scarred and pock-marked and eroded, with not even the smallest pocket of moisture or atmosphere visible anywhere.

Storm shivered, ever so slightly. Then, with a quick twist of the wrist, he pulled the carrier from its arc and dropped it down closer and closer to the planet.

Behind him, Krylla moaned softly. Her fingers tightened on his shoulders. "Must you, John? Must you?"

With an effort, Storm shrugged

off his growing tension. "That's right, I must," he clipped, too curtly. "I told Wassek I'd report back on this rock-pile, and I'm going to do it."

"But the others—they tried too—" The girl was pleading now; imploring.

Storm only grunted, checked his Hildreth finder, and then threw the carrier into a tight bank that circled the electromagnetic focal point, shown by the finder's needle to lie almost directly below.

Faster and faster they descended. Closer and closer they came to the scarred iron-grey world that men called Cerberus III.

Storm bucked the carrier into ramping stance. Again he checked the Hildreth finder.

The focal point lay slightly to the left now, just beyond a narrow, slag-like ridge. No sign of life was to be seen, and the terrain was too rugged for any ship to ramp in. But the ground leveled off a bit past the ridge's right shoulder. Maneuvering, Storm set the carrier down there, and cut off the power.

Behind him, Krylla said, "Is this the way you fit a breather mask?"

Storm turned sharply.

The girl already had strapped on a shoulder pack; attached the tubes to tanks and face-plate.

Storm made a meaningless, non-

committal sound, swung back to the instrument panel, and switched on the new com-set, the one they'd pulled out of the Port of Pontius' communications center.

Earth still didn't answer.

Neither did Venus, nor Mercury, nor Callisto. From one end of the band to the other, not a single signal blipped.

No word from Krylla; no panicky outburst, no casual comment. Storm snapped, "Rack it, I know what you're thinking! But this doesn't mean a thing. Wassek may have slapped on a security silence. Or—"

"Or they may all be dead, on the other planets, just like they were at Pontius."

It was a time for silence. Switching off the com-set, Storm got up from the control seat, went back to the stowage area, and dragged out shoulder pack and breather.

The fitting, the checking, the adjustment of valves and talker—they took less than two minutes. Picking up a climbing iron, Storm started for the hatchway.

Krylla said, "John, you still haven't helped me with my mask."

Storm's back was to her. Unhappily, he closed his eyes for the fraction of a second, as if that somehow would clear away what he knew was going to be a taut, nerve-racking moment.

It didn't help. Sighting, Storm said, "You're not going, Krylla."

"I rather thought that would be the way you'd plan it."

Storm could hardly believe his own ears. He swung round sharply. "What—?"

Krylla smiled. "I just mean, that's your pattern. Your own neck—you'll risk that any time. But mine—" A shrug of slim shoulders; a rippling of golden hair as she shook her head.

Storm said warily, "I'm glad you understand, then, Krylla. Maybe it's just that I've an exaggerated sense of duty, or guilt feelings, or something like that. But when I've sworn I'll do a thing, the way I did with Wassek . . ."

"I understand." The girl came to him, still smiling. "Now, help me with my mask."

Storm stiffened. "Rack it, I just told you—"

"You told me why you were going. I said I understood. But that's got nothing to do with leaving me behind."

"I said—"

"I don't care what you said, John Storm! I'm going too!"

"You're not!"

"I am!" The blue eyes flashed, then softened. "You see, John, there's something you don't understand: When you saved my life, back there at Pontius, you—"

changed the way things were between us. They can't ever go back to what they were before.

"I thought you understood that, when we worked together on the carrier—repacking the power seals, installing new balance tubes. If you didn't, though, let me tell you now: I'm—well, you could say, tied to you; not so much by obligation or anything like that as by the way I feel. So, if you should leave me—if you should go out there to maybe die, yet force me to stay here—oh, John, it would be the cruelest thing that you could do—"

SHE WAS CRYING, then, and again Storm had his arms about her, soothing and comforting and smoothing the golden aureole that was her hair.

Life could be, would be, wonderful with Krylla, he decided.

If they lived.

And there was an answer to that, too, perhaps. For who was to say him nay if he were to blast off in the carrier again; go back to the world of men without hazarding his neck and Krylla's on this lunatic search? Human growth was a matter for scientists and research men, not a captain of the Jovian Orbital Patrol. Why shouldn't Wassek visit Cerberus himself, if that was what he wanted? Why should he,

John Storm, be the one to spit in the devil's eye?

No; it didn't make sense. Better that he should leave this dark world now, while he had the chance, and live out his life in peace with Krylla Loy.

Only then, all at once, the girl was lifting her tear-streaked face to his, and smiling. "Fix my breather mask now, please, John."

"Forget it," Storm clipped. "We're not going. Not either 'of us."

But when he tried to step away, Krylla caught his arm. "John . . ."

"Well, rack it—"

"Please, John. I won't let you do that either. You mustn't spend the rest of your life all hard and bitter, thinking back to today and what might have been. You made a promise to General Wassek, so now we're going to keep it—both of us, because we believe in each other, and because our hearts tell us that that's the way these things should be."

There were more words, after that, but they all said the same thing; and when the moment was past, Storm adjusted Krylla's breather mask with unsteady fingers, and swung back the hatch lever, and together they climbed from the little carrier and dropped down on the bleak, iron-grey crags of Cerberus III.

Up the ridge, then. Up over great stone slabs and razor rocks and crevices drifted calf-deep with strange, pumice-like dust that billowed up in blinding clouds. Once, Krylla fell into a yawning cleft. Once, eroded rock gave way under Storm's weight, and a monstrous boulder hurtled down, missing him by inches.

Grimly, they still plodded on.

Then, at last, they crested the ridge; half fell, half slid down the other side.

The landscape here was even stranger than that which had come before. Huge needles of rock crowded one against the other in spires and steeples and pyramids and lances.

And still there was not a single sign of life; not a trace of anything resembling habitation.

Wearily, warily, panting, Storm and Krylla made their way around the edge of the maze of crags.

Still nothing. Yet to venture further into the clutter of weirdly-eroded towers and columns held little promise either.

Storm spoke into his talker: "If we could only disconnect our Hildreth, bring it out . . ."

Krylla: "I worked on Hildreths once, back at the missile center. Maybe we can do it!"

Stiff with fatigue, they started back up the ridge.

Only then, somewhere ahead, thunder erupted—thunder felt more through the soles of their boots than heard with their ears, on this bleak world without an atmosphere to carry sounds.

Storm stopped short; flashed a glance at Krylla.

She gestured. Together, they broke into a clumsy run . . . crested the ridge.

Off to their left, on the carrier side of the hogback, dust-clouds had erupted from a gigantic fissure. Loose rock was sliding, boulders rumbling and crashing down the slope.

But the thing that froze them, held them, was the silhouette of dim-seen figures that stalked out of the fissure and through the welling, swelling cloud.

There were three of the things, at first. Then four . . . then five . . . then six. With heavy-footed, clumsy steps, the one in the lead now emerged from the billowing dust and moved towards the more level ground below. Headless, it had two great, rigid arms that protruded from a dully metallic body, cylindrical as a tank. Four towering, self-compensating spring-legs undergirded it.

Krylla clutched Storm's hand. "Robots—!" she whispered shakily into her talker. "John, they're robots!"

Storm nodded, not answering.

One after another, the huge metal figures came on out into clearer view. Storm guessed them each to be close to thirty feet tall.

Still clinging to Storm's arm, Krylla pressed close. "Where are they going, John? What are they going to do?"

Storm shrugged. "We'll have to wait and see," he answered grimly.

Now, abruptly, below them, the gigantic lead robot veered across the level area towards the ramped carrier. Again, the others followed, ranging themselves around the little ship.

Krylla's hand flew to her throat. "John—"

"Quiet! Whatever they're going to do, we can't stop them. We'll do our punching later."

Closing in on the carrier, now, the robots seized it; lifted it; moved it in rhythm as if to coordinate their timing.

Then, with a mighty heave, they hurled it high into the air.

It landed nose-down in a jumble of crags, the hull split open beyond repairing.

Krylla began to shake as if with a chill. She couldn't seem to tear her eyes from the shattered spacecraft.

**S**TORM JERKED her about bodily. "Come on! Now!

Quick!" He snatched up the climbing iron and led the way in a lurching run along the ridge in the direction of the fissure from which the robots had emerged.

Reaching it, then, he halted—waiting, gripping Krylla's arm.

Down on the level ground, the robots had again fallen into line. Now they turned and began their awkward climb back to the cleft from which they'd come.

The first reached the dust of the crevice; plowed through it; moved on back into the depths of the rift till lost from view.

Still Storm waited.

The Second robot passed on great, thudding feet, so close it seemed they could almost reach out and touch it. The rising dust that swirled about it now was so thick, so blinding, no one could possibly see through it.

Close beside the fissure, Storm spoke into his talker, low-toned and urgent: "Krylla, we're going down there! Grab a foot as it goes by, and ride it in!"

Lifting her over the cleft's edge, he lowered her till her feet touched the step side, then let her slide. The moment she was out of sight, he followed.

The dust was a fearsome thing, down here. It was all Storm could do to fight back blind panic.

Then the rock beyond him trem-



bled, and something brushed his shoulder. Hastily, he clutched for whatever it was, and a moment later found himself clinging to a big, self-compensating spring-leg.

The thing carried him on, deeper and deeper into the blackness. When at last it halted, Storm had lost all sense of time and of direction. He had no idea of how far he'd come; only that he must lie somewhere deep beneath the ridge.

More time passed, an eternity of it. The last vibrations died away. The dust settled.

Storm spoke into his talker, a hoarse whisper: "Krylla?"

"Yes?"

"Stay there. I'll find you."

Ten minutes' stumbling, groping, checking with the talker.

Then they were two again. Storm hugged the girl till his arms ached.

"What now?" she whispered, later.

"We find a wall."

They found it; felt their way along it. It was of rough rock, unfinished.

The door-frame wasn't rock, though. It had the satiny feel of machined tellurium.

Storm wedged the point of his climbing-iron into the crack, then levered. The door burst open.

It was a low door. Storm had to get down on his hands and knees

to crawl through it. And the passageway beyond was as dark as the echoing vault from which he and Krylla had just come.

Another door—a door with a big exterior wheel: an airlock. Storm entered, closed it behind him, opened the second element, moved on into a large, empty room, and waited till Krylla had gone through the same process.

It was warmer here, and there was air; a feel of habitation. Cat-silent, Storm listened at the exit door, then opened it and crept on down yet another passage.

Light glowed ahead. There were voices, laughter, fragments of familiar phrases.

Storm touched Krylla's hand; pressed her back a fraction. Flexing his fingers, he gripped the climbing-iron tighter. Then, inches, at a time, he crept closer to the light.

A doorway, open. Taut-nerved, Storm peered in.

There were three men in the room. One yelled and snatched for a paragon as Storm started forward. The other two seemed content to use whatever blunt instruments came handy.

In cold fury, Storm brained the three of them with his iron. Then, grimly, he sat down to ponder.

Because not one of the trio was more than six feet tall!

## CHAPTER VII

IT WAS A SMALL room, cramped and windowless.

Three points, however, distinguished it from an infinity of other cubicles: First, it measured at least thirty feet from floor to ceiling.

Second, one wall was partial only. Twenty feet from the floor, it gave way to a low-railed alcove ten feet tall.

Third, the floor itself was of a peculiar metal parquetry, intricate and grid-like.

Wassek himself ushered Storm and Krylla in. "Our techs designed this place for some specialized experiments in sound," he explained. "The experiments failed, but it still offers a desirable degree of privacy in situations such as this."

Briskly, then, he closed the door that led to the communications center of the FedGov's Mercurian Defense Command. As he did so, his tone, his expression, his whole manner changed. "Storm, if what you said over the beam is true—" It was the voice of a man condemned.

Storm shrugged. "Hear it for yourself," he answered woodenly.

The Mercurian's jowls quivered. He scrubbed his dark mustache with the back of his hand. Then, reaching out a trifle unsteadily, he took the sonoplate from Storm and

slid it into the player slot.

For a moment there was silence. Then, suddenly, a harsh voice blared: "Creatures of this system! Fools that you are, you have sought to resist us! You dared to pit your puny arms against our all-conquering might!

"In our benevolence, we remain patient with you. We accept you as children. We try to help you learn the error of your ways.

"Yet some chastisement must be visited upon you. Some way must be found to teach you to obey.

"Therefore, it is our decision that growth shall still be with you—a faster growth, now; one that in days will double you again in size.

"Then, if you still have not learned your lesson, we shall have no choice but to eliminate your race.

"Heed well, then! If you love life, obey! Surrender! Do not hazard our wrath again . . ."

General Wassek's fist smashed down, slamming shut the player. The sound clicked off. The harsh voice died away.

"Rack them!" the Mercurian roared. "Rack them, rack them, rack them!"

A shrug from Storm. "I'm agreed," he nodded. "The only question is, who?"

"Who do you think, you fool?"

These—these—”

Abruptly, then, the general broke off. When he spoke again, his voice was grim yet level. “My apologies, captain. It’s only that this is—quite a strain.” A pause; a gesture to the sonoplate. “You found this in that place on Cerberus, you say?”

“Yes.”

“And there were humans with it.” Shaking his head, teeth clenched, the thick-bodied Mercurian paced the floor. “That does for all our theories, of course. Completely and without equivocation, it eliminates the notion of any alien menace, and nails this whole thing down as a human plot.”

“Agreed again,” Storm nodded. “Going on from there, what particular humans do you have in mind?”

“I don’t know, Storm. I just don’t know. It could be a group, official or otherwise, from any Federation planet.”

“Any but Mars, you mean.”—This bitterly, from Krylla.

“Including Mars,” the general contradicted. “I know how you feel, Miss Loy; you’ve seen your dead. But this fiendishness—its roots could lie anywhere. Even if only a handful of men, private individuals, are involved, Martians may be among them. It’s possible they’ve lain hidden ever since this

upswing started, somehow immunized against the whole growth speedup, like those three you and Storm flushed out on Cerberus.”

“But motive—”

“Motive? Rack motive!” Wassek paced the floor with quick, angry steps, his dark face flushed and furious. “Don’t you see, girl? Motive’s the very element we can’t bring into focus! The variables, the unknown quantities—they get in the way, confuse the issues. Look at the jealousies between the planets; the problems each world faces! There’s Terra—a study in decadence and overpopulation. Venus—bitter to the core about Earth’s older culture and higher status. Your own Mars—convinced that lack of water’s the only barrier that stands between it and greatness. The Jovain Entente chafes at restraint, hangs forever on the brink of a complete break with FedGov and the inner planets. Even my own little Mercury, here—we beam power to the whole system, yet live on a world that never should have been colonized in the first place.”

The general paused, scowling. Before he could start again, Storm cut in:

“The equipment there on Cerberus—it didn’t help?”

“To identify the guilty party? No.” Wassek hammered a clench-

ed fist into his palm. "Rack you for that, Storm! If only you'd left one of those three human snakes alive!"

"At the time, I was thinking more about keeping me alive."

"I know, I know; I'd have done the same. It's just that I keep harking back to how easily we could have cleared up this whole insane affair, if only we'd been able to question that trio! As it is"—the general spread his hands in a helpless gesture—"we're left with nothing to go on but an underground communications center; a mass of transmitting apparatus apparently scooped up at random from every electronics junker in the solar system."

"What about the robots?"

"They're a better lead, all right, if we can ever find out what plant machined the parts. But that could take weeks, months—years, even. Meanwhile—" The swarthy Mercurian spread his hands again, then straightened and, after a fashion, smiled. "We'll all think better, clearer, in the morning. Personally, I'm going to bed before I start bubbling my lips. Shall I call someone to show you to your quarters?"

Storm shrugged. "Thanks, but I think we can find them for ourselves. They're not too far."

"Very good, then. Now, if you'll excuse me . . ."

AS HE SPOKE, General Wassek ushered Storm and Krylla from the little room and on past the lone man on duty in the communications center, out into the corridor beyond. Then, with a click of heels, a bow, he pivoted and left them, striding along the hall with the heavy tread of a man weighed down by troubles.

Storm took Krylla's arm. Together, side by side and in step, they moved off in the opposite direction. In a way, it was a unique experience—thanks to the military's taste for ostentation, even the passageways of this building were tall and broad enough for twelve-footers to move through freely.

Then, at last, the sound of the general's footsteps faded. "Shall we try it now?" Krylla asked in a taut whisper.

"Not yet." Storm held his tone as low as hers, or lower. "This is Mercury, remember. We're not on our own ground. We don't know what we may run into."

"But can we leave, once we're in the suites that they've assigned us? They may have them rigged with listeners and spy-eyes."

"No 'maybe'; they will have. Take that for granted."

Krylla pressed against Storm; shivered. "John, I'm afraid!"

"So am I, if that's any consolation."

"Then why do we go on? Why don't we just go to our rooms and sleep; forget the other?"

"I'd tell you, if I thought you really meant that."

From Krylla, no comment : . . only a tightening of her hand and arm on Storm's.

He said, "It makes a pretty picture, Krylla: Men twenty feet tall instead of ten. No transportation, no clothes, no shelter—not even what little we've got now. No food to eat, more people starving—remember how it was on Mars—?"

"John! Stop it! Stop it!"

"You think I like to talk about it?" Storm laughed without mirth. "Believe me, I'll see it in nightmares till the day I die!" Then, with sudden, grim intensity: "That's why we're going on, Krylla!—Whether you're scared, or I'm scared, or they kill us before we even find out what the truth is."

"Yes, John, yes! You're right. But we don't know what to do; not even where to start—"

"On the contrary. We get lost. At the next intersection. Like this . . ."

Storm pivoted left; then left again at the next cross-passage.

A dead end, then.

In a firm, clearly-audible voice, Storm said, "We must have taken a wrong turn. We'll have to go

back."

Wordless, they retraced their steps, clear to the communications center.

Entering, Storm approached the man on duty. "You've got too much building here, friend," he observed sheepishly. "We couldn't find our quarters."

"You're not the first," the man retorted, grinning. He arose from his seat, crossed to a wall chart. "Here. Let me show you the route on this floor-plan."

Storm threw a quick glance to Krylla. Casually, she leaned against the corridor door, so that it swung almost shut.

"See here?" the duty man prodded Storm. "This is where we are. Now, if you'll just go down this way four intersections—"

Storm hit him, a sharp, violent blow to the base of the brain.

The man stopped in mid-sentence. His knees buckled. He spilled forward.

Storm lashed: "Quick! The door!"

"I've already locked it."

"Good. Now, this fellow . . ."

"There's a supply closet over here. It has an outside bolt."

That disposed of the man. Nervously, Krylla drew aside. Her hands were shaking.

Storm said, "Don't worry. I've figured out an angle."

"But—if it doesn't work—?"

"Then worrying won't do any good." As he spoke, Storm crossed to the seat the communications man had occupied. Dropping into it, he studied the elaborate multiple-switching board below the modified, closed-circuit visiscreen.

"All right, now. Get on the directoreel," he ordered Krylla.

She stared at him as if he were surely mad. "The directoreel—?"

"That's right. I want to know which sections of the board are assigned to the projector monad."

"Oh."

"Get on it, rack it! Don't you see? All Mercury's just one big power station. If someone's beaming out growth stimulation, they'll have to do it through the unit that does the beaming—the projector monad, not thermoturbine or reactor."

"Oh!"

"They won't list it that way on the reel, of course. There won't be any entry for 'Interplanetary Sabotage' or 'FedGov Subversion.' But someplace on the section of the board set up for the projector monad, unless I'm wrong, there'll be a whole big segment of screens with no assignment listed."

A clatter of tabs, a whirl of reels. Segment by segment, they cut down the board, until at last there was only one strip left with-

out listed assignment.

"Now's the time," Storm said. "Wish for us."

He flipped the first switch in the strip.

The visiscreen came to life, flashing a face the size of a Ganymedan polla melon. "Auxiliary arc repair unit."

"Sorry," Storm said, "I got my board-lines mixed." He broke the contact.

More switches, more faces, more obscure units, more excuses. Half the strip gone now; then three-quarters. All gone, finally—all but one last screen, down in the board's very farthest corner.

Beside Storm, Krylla whispered, "John . . ."

"Yes?"

"We've lost, haven't we?"

"It looks that way."

"Then . . . what do we say to Wassek?"

"What does he say to us, you mean." With bleak finality, Storm threw the fatal switch.

The visiscreen, flashing on. An angry face, an angrier voice: "Rack it, what do you mean, cutting us in? This screen's off reel, except in cases of certified 3-X emergencies."

For once, John Storm had no excuse. Because for once he couldn't speak for staring at the face upon the screen.

Behind him, then, a voice said, "That's right, my inquisitive friends. That man you see is normal size."

As one, Storm and Krylla whirled.

General Wassek stood in the doorway, a paragon in his hand.

## CHAPTER VIII

HELPLESSNESS, it had always seemed to Storm, was a relative thing.

This moment lifted it to its ultimate peak.

"I suppose there's no use saying anything?" he asked at last.

"Correct."

"Of course, the Entente may wonder about me, just a little—"

"The Entente?" Wassek's roar of laughter was a thing to daze and shatter. "Who cares what your thick-headed, half-witted Jovian incompetents wonder about, or say, or do?"

"I see." Storm brooded for a moment. "Then you've reached the point where you don't think anyone can turn you back."

"Right again."

"And your plans—"

"They should be obvious even to a man of your limited insight, Captain Storm. As I pointed out earlier, Mercury's the hell-hole of our solar system. The cure, plainly, is

to abandon it, save as a power station. No human being should be forced to live here, except for drastically-limited, regularly-rotated maintenance crews."

"What happens to the rest of your half-billion population?"

"They'll move out, of course. They'll settle on other, more favorably-situated satellites and planets."

"They like the idea?"

"Does it matter? The change is for their own best interests. I don't doubt there'll be a sprinkling of sentimental holdouts amongst the rabble. But the vast majority will seize on the plan as delightedly as if it were theirs instead of mine."

"And as for the people who already occupy the planets you'll take over—?"

"Need you ask, after seeing with your own eyes how well my operation worked on Mars?"

In spite of himself, Storm shuddered. He didn't dare look at Krylla.

Wassek again: "My biggest mistake was Cerberus, of course. But at the time I felt the need for some touch that would throw dust into possible adversaries' eyes. So, what better device than an alien menace?"

"It would have worked, too, except for you. Because if you hadn't created such a storm on Venus, all

elements of the FedGov fleet save mine would have destroyed themselves as robot missiles. And then, after that, if you hadn't gone on like the stubborn ass you are, the 'alien' fraud would never have been unmasked.

"—Of course, none of that matters any longer, as you no doubt gathered from that sonoplate we heard."

"Oh?" Storm studied the general narrow-eyed. "Are you trying to tell me there's going to be another spurt of growth?"

"Precisely!" Never had the swarthy features mirrored greater triumph. "You see, captain, our stimulative technique's getting better. We've cut the time we need from months to minutes. The normal process of mitosis—we've speeded it up, so that the plasmodesmata's stretched to the breaking point. Carried far enough, it can collapse the body's whole cell structure."

"In other words, it kills?"

"That's right. Would you like me to explain the process?"

"Don't bother," Storm grunted. "I'll tell you: Mercury beams power to every planet. The receptors are sealed units that can't be touched by anyone but your own techs.

"Only some of those sealed units aren't just receptors; they're

stimulators, pulsing out waves to tie human endocrine glands in knots. Right?"

Wassek didn't answer. He was staring at his prisoner in most peculiar fashion.

It was Storm's turn to laugh—a bitter, mirthless laugh.

"Not all Jovians are thick-headed or half-witted or incompetent, general!" he jibed. "Even before they sent me to Venus, they were suspicious of you. They figured beamed power was the only way a stimulant could strike all worlds at once.

"That's why this latest scheme of yours isn't going to work, general. Not even though you kill me. Not even if you bring all the inner planets under your control.

"Because the thick-headed Jovians aren't having any, general! Their plans were laid before I left: The moment there's even the slightest trace of renewed growth, that moment the Entente blows up every single one of your sealed units anywhere within Jupiter's orbit, even though it means going back to the atom age or worse!"

"You're lying! You're bluffing!"

"Of course I am, general! And that makes it your privilege to call me any time you like."

**W**ASSEK'S BROAD, swarthy face was a study in dark emotions. Feverishly, he ran heavy



fingers through his coarse black hair.

Then, abruptly, he straightened; gestured with the paragon. "All right, you two! March! —On into that little room where we were before."

For the fraction of a second, Storm hesitated. But the glint in the Mercurian's dark eyes told him more than words. He swung round. "Come on, Krylla. Let's go."

Together, they crossed the communications center and moved into the strange little shaft-like room beyond, with its gridded floor and narrow walls and high, high ceiling.

The door crashed shut behind them, followed by the thud of a heavy bolt being thrown.

Shivering, Krylla pressed against Storm. "John, what does it mean? What's he going to do?"

"I only wish I knew."

"The other, John—about the Entente blowing up the power-beam units. Was it—was it true?"

"Would I have asked you to make this crazy gamble with me tonight if it had been?" Storm's lips twisted. "No, girl; I was just bluffing, and I'm afraid I lost."

The girl's lips moved in incoherent anguish. Storm held her shaking body close.

Only then, another sound came, above them. They looked up

sharply.

General Wassek had entered the narrow alcove that set back in one wall, eight or ten feet above their heads. Now he approached the low rail and leaned heavily on it, gripping the ironwork with his powerful hands.

He spoke to Storm: "I'm taking your word about the Entente's suspicions, captain. I can't afford not to."

A second of silence. Frowning, Storm said, "Get on with it, general. You didn't climb up there just to tell us that."

"Have I underestimated you, captain? Do you possess more insight than I suspected?" Wassek laid on sarcasm with a heavy hand. "However, I must confess your conclusions are correct. I've plans for you, and we'll waste no time in getting to them."

"Succinctly, captain, I propose that you notify your friends and superiors in the Entente that they're completely wrong in their suspicions of me. As a matter of fact, you yourself have uncovered the guilty party in this business, and it's essential that they do nothing whatever about blowing up Jupiter's sealed power units until you've had a chance to reveal new and startling information to them, face to face."

Storm stared, blank-faced. "You

really think I'd go along with a scheme like that?"

"I do."

"Then think again."

"I still come to the same conclusion. You're going to put a proper message on a sonoplate, for immediate transmission."

"Even if I did, they wouldn't believe me."

"Of course not. But at least, such a message will confuse them. They'll delay action, trying to figure out what's behind it. And that, of course, is all I need; a little delay, captain; a little delay."

"And if I won't?"

Wassek grinned. "I wondered when we'd get to that."

"The answer lies in this room. As I mentioned, it was designed for experimental purposes."

"I didn't specify those purposes before. Now I will."

"Very briefly, it's in this chamber that our principle of pulsational growth stimulation was developed. In field use, thanks to our limitless supply of power, we send out the necessary waves through the ground, the earth beneath man's feet. They reach everywhere; there's no floor, no structure, that can insulate against them. So if the waves are projected into a planet's basic geologic structure, men grow, unless they're protected

by a special contra-pulsational mechanism."

"Here, in this room, in order to maintain greater efficiency and a higher degree of control, the pulsations are applied directly to the gridded floor."

"The results have proved spectacular in the extreme, believe me. In ten minutes, I can increase your height ten feet—if you survive. In twenty, count on it, your whole cell structure will collapse. You'll die, a formless mass of protoplasm, with not even a skeleton to mark your passing."

A pause, while Storm stood rigid, his skin crawling. Krylla's body, against his, was suddenly cold as ice.

"Well, Storm?" Wassek inquired, too gently. "Which shall it be, stubbornness or safety? Because if you cooperate, I might even find it in me to forgive you and Miss Loy for the things you've done this evening."

Storm couldn't answer.

Wassek said, "I pity the girl most, don't you, captain? This isn't her fight; not really. But because of you, she'll go the same road—growing . . . growing . . . growing . . ."

Storm: "Rack you, Wassek! Even if I did it—"

And Krylla: "No, John! No! I won't let you! Not after Mars!"

Wassek again: "Very well, my friends. If this is the way you want it . . ."

HE STEPPED to one side of the alcove as he spoke. A switch clicked. "You understand, if you should change your minds, I'll be here to turn off the stimulator. Though of course there'll hardly be much time."

Storm roared, "Wassek—! Rack you, Wassek!" Furiously, he hurled himself against the door, the walls; leaped high into the air in a desperate, futile effort to reach the alcove, catch the railing.

Once, twice, a dozen times he tried. To no avail. Always, always, he fell short.

"Can you feel it yet, Storm? Can you begin to sense the pull on your skin and bones and muscles as the cells change?" —This from Wassek.

Panting, cursing, Storm sagged back, all energy momentarily spent.

And then, in that moment, he *did* feel it.

It came slowly, at first . . . a prickling and a tingling.

Then there appeared a sense of inner movement—a roiling, a boiling, a queer, jumbled feeling. Muscles began to ache. There was a stabbing at his joints, a gnawing in his bones.

His mind, too—dizziness all at

once assailed him. He slumped down on the floor, for fear he'd lose his balance.

Only that was worse, because now the rush of sparks and stabblings, stretchings, twistings, swept through him from new contact points. He writhed in agony; cried out aloud against the torment.

And still the pulsings surged up through him, permeating every atom of his body, his bone, his blood, his brain. His ears rang; his heart pounded. There didn't seem to be enough air within the tiny room to fill his lungs.

And always, as from afar, there was Wassek, and Wassek's voice: a strange, dwarfed figure caricatured on a surrealistic balcony; an eddy of sound that begged and badgered, plagued and pleaded.

*"Give in, Storm! Give in. Give in!"*

Only Krylla was there too; and like him, she was on the gridded metal floor, writhing and screaming. But not too freely, with the writhing, because her body had stretched till she could no longer lie flat on the floor of the narrow room.

How long can a man endure a nightmare? How long before body and mind alike must snap?

That moment—it was coming, and Storm knew it. It was beyond all hope that it could be forestalled.

A shriek, then; a shriek from Krylla.

That was the trigger. It made the moment more than Storm could bear.

He bellowed, "All right! All right! Stop it, Wassek; stop it!"

A million miles away, a switch clicked. The world of madness steadied, just a little, as the pulsings ceased.

With a tremendous effort, Storm sat up. "The sonoplate," he mumbled, in a voice that he himself could barely understand. "Get the sonoplate."

"No!" —And this was Krylla; a Krylla who lurched up on one elbow like a figure from the grave. "No, John, no; you mustn't! Not after Mars; not after all the dead!"

She slumped; sprawled in a limp heap with eyes glazing, her breath so quick and shallow that it seemed impossible that it could support life.

Storm sagged back against the wall, still sitting. His belly churned. A haze of red fury swam before his eyes.

"To hell with you, Wassek!" he shouted. "Go ahead! I'm racked if I'll make you a plate!"

Wassek said, "Now, wait, Storm! Don't be hasty! It's worse, you know, when I have to turn this thing back on."

Storm didn't answer.

"Fair enough, then," Wassek grunted. "We'll see how you like it at full speed."

He threw the switch.

The general had told the truth, Storm now discovered. The pulsing *was* worse, when it came back on. It was enough to tear a man to atoms; to shred his body and then chew up his soul.

Only somehow, incredibly, the pain no longer mattered; and Wassek's most savage jibes had lost their sting.

Because, sitting there, Storm found, there was still a new discovery to be made:

*The door, through which he'd walked erect in entering, now came barely to the top of his head as he sat sat on the floor!*

Could hate or blood-lust or revenge ask more?

Storm laughed through his pain; and it was a laugh that rang with rage and homicidal madness. With a roar and a snarl, he lurched to one knee; then, bracing himself against the wall, surged on up to his full, towering height.

Wassek saw him, then; saw him, and screamed, and tried to run away.

Like a Terran cobra striking, Storm lunged—and this time the alcove was not too high for him

to reach.

He broke Wassek there; broke his back across the rail and then dashed him, still screaming, to bone-shattering death on the grid-  
ded metal floor below.

One more effort, then; one more last desperate striving. Sweating, straining, Storm snapped off the pulsational stimulator's switch, then sagged in a heap close beside the spot where Krylla lay . . .

## PORTRAIT of progress—

*Item: Sonoplate message, Mercurian Defense Command Hq. Sol City, Mercury, to Jovian Orbital Patrol Hq., Tenzel, Callisto.*

" . . . You may rest assured no effort will be spared to restore this officer, Captain John Storm, to full health and duty at the earliest possible moment . . ."

*Item: Official statement, Mercurian Executive Council.*

" . . . and said plot is hereby officially declared to be due entirely to the machinations of the traitor General Dylan Wassek and his accomplices, in no wise reflecting the policies and/or attitudes of the Mercurian people or their executive council . . ."

*Item: Summary, Interim Report, Human Growth Project, Humanics*

*Research Laboratory, Unltd., Kor-saw, Ganymede.*

" . . . and since man had already attained his optimum size as established by nature in relation to environment, it may be assumed that most humans will respond favorably to the Kuypers cell-reduction process newly perfected by this laboratory from a more rudimentary system outlined in a report found among the papers on the late conspirator, General Wassek . . ."

*Item: Vidox newscast, Tenzel, Callisto.*

" . . . It's a happy ending, too, for Captain John Storm of the Orbital Patrol and his Martian sweetheart, Krylla Loy. They were married today, with all the pomp and flourish a grateful world could muster. And how's this for a twist? As you know, Captain Storm and Krylla both are nearing normal size again, under the Kuypers treatment. But John's moved ahead a trifle faster than his bride, so at the moment he's nearly two feet shorter than she. The result? Well, at the ceremony today, ushers had to bring in a box for the famed giant-killer to stand on, so that he could kiss his newly-wedded wife . . ."

*The End*



"Okay, let's have those 4 G's you're going to take."

**SPECIAL SCIENCE FEATURE!**

# Gravity vs. Space Flight

*by*

*Henry Bott*

RESEARCH ENGINEER

**Scientists face many problems as the Age of Space opens; basic, of course, is overcoming Earth's gravitational pull. Here are the facts.**

**I**T IS A REMARKABLE fact that until the year of our Lord 1957, in the course of one hundred thousand years of human experience on this planet, that any natural or artificial object, from stones to rockets which had been hurled into the sky, returned to Earth.

One of the most commonplace of human experiences is that of recognizing the difference between "up" and "down"; we do this not only by noting that "up" is toward the sky and "down" is toward the ground, but more personally by feeling that "down" is the direction toward which things move naturally.

The brilliant abstraction and distillation of this experience which Sir Isaac Newton explained mathe-

matically four hundred years ago, stands as one of the most astonishing feats of the intellect. His "theory of universal gravitation" is no less accurate and useful today than it was four centuries ago; in this dawning age of interplanetary flight, it is Newtonian mechanics that will be used.

This article is concerned with the gravitational field, not as an exercise in theoretical physics with reference to Einsteinian gravity as a property of space-matter, but rather on the considerably practical level of an engineering tool. In a short time an understanding of the behavior of objects in gravitational fields a few planetary radii in extent, will be as necessary as an understanding of the rudiments of aerodynamics.

Force at any point  $r$  in Earth's gravitational field:

$$F = ma = mg_r = mg \frac{R^2}{r^2}$$

where,

$F$ , force (lbs)

$a=g$ , acceleration at  $r$  (ft/sec<sup>2</sup>)

$gR$ , accel, at Earth's surface (32.2 ft/sec<sup>2</sup>)

$R$ , radius of Earth (miles)

$r$ , distance from center of Earth (miles)

$m$ , mass (slugs)

Energy required to raise mass  $m$  to point  $r$ ,  
in Earth's gravitational field.

$$\begin{aligned} W &= \int_R^{r_1} mg_R \frac{R^2}{r^2} dr = mg_R R^2 \int_R^{r_1} \frac{1}{r^2} dr \\ &= mg_R R^2 \left[ -\frac{1}{r} \right]_R^{r_1} = mg_R \left[ R - \frac{R^2}{r_1} \right] \end{aligned}$$

where symbols are as above and  $W$  = work (ft -lbs)

Fig. 1

As to the question "what is gravity?"—that is better left to the subtle speculations of the philosopher and the theoretical physicist.

We shall start with Newton's Law of Universal Gravitation supplemented by his three laws of motion. With these elements one can construct a universe. Newton did.

"All bodies in the universe," said Sir Isaac, "attract all other bodies in the universe with forces which are directly proportional to the product of their masses and inversely proportional to the square of their distances." By forces here he meant the same intuitive push-pull kind of thing we recognize as force. On a quantitative basis we write this



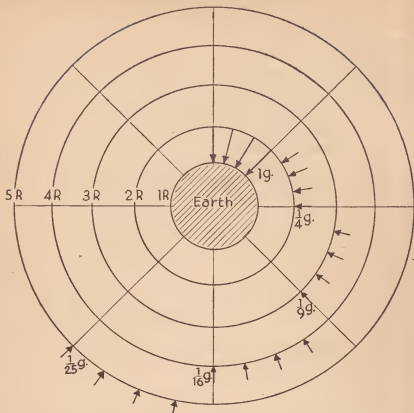


Fig. 2

An infinite number of arrows would indicate the exact distribution of the vector central force-field that is  $g$ . The concentric circles, also infinite, would describe the lines of constant potential.

force as  $F = ma$ , that is, force equals mass times acceleration.

The logical consequence of the Universal Law of Gravitation, when applied to the large body of our immediate experience, the

Earth, is that we are required to visualize that this planet is surrounded by an invisible force-field. A physicist describes this sort of field as a "conservative central force-field." With no more descrip-

tion than that it is at once possible to write the differential equations whose solutions immediately describe the orbits or trajectories of any bodies or objects projected into that central force field—bodies such as a planet, moon, or rocket.

We prefer however to have a more concrete picture of this gravitational field. Mathematicians have provided a satisfying picture of this invisible field by describing it as a vector field. That is to say, they have illustrated this formula: (see fig. 1)

If we draw a circle representing the Earth in section and draw many radial lines through it, we can use these lines as guides pointing toward the center of the Earth, along which we can draw numerous little arrows the length of which indicate the magnitude or strength of the gravitational force at each point. (See fig. 2)

The formula given above completely describes the Earth's gravitational field. From it, by a simple integration we can obtain the scalar potential field which immediately tells us how much work must be done on an object to carry it to any point in the gravitational field from any other point. The term "conservative" was used above. This simply describes more accurately what we know about the potential and kinetic energies of a

body in the field—that is their sum must be a constant unless external forces act.

This idea explains why an orbiting satellite for example must speed up as it comes in closer to the Earth and why its velocity must decrease as it goes to the apogee of its characteristic ellipse.

Notice that not a word has been said about what gravity *is*; all that has been attempted is a description of *how* it behaves.

To get some "feel" for actual magnitudes of forces described by the equation of the Earth's gravitational field, consider the "weight" of a human being—say one hundred pounds (she's easy to visualize!). When we say "weight" we actually mean "force." At the Earth's surface a weight of one hundred pounds is exerting a force of one hundred pounds on whatever is supporting it. This is the force that gravitation is supplying. How far out in space would we have to go to reduce this force to one-half, that is fifty pounds? Applying the formula, we find the distance would have to be 1600 miles above the surface of the Earth. To decrease the force to twenty-five pounds, we would have to go "up" or "out" one radius above the Earth's surface, 4000 miles. (See fig. 3 on following page.)

And so on.

gravitational  
acceleration

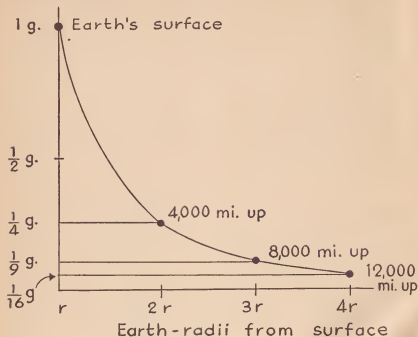


Fig. 3

Illustrating how gravitational acceleration (and hence force) decreases as distance from surface of the Earth increases.

WHERE WOULD gravity end? Obviously it would never end. There would be some gravitational force no matter how far from the Earth we went. And this is the source of considerable confusion. It is not uncommon to read that the "rocket went beyond the reach

of gravity." Of course this is not true. What is meant really is that because the falling of force with the square of the distance is so rapid, gravitational forces become negligible say ten or a hundred radii out, with respect to the Earth.

Another aspect of this same idea,

is that close to the Moon there is a point at which the Earth's field is balanced by the Moon's field and here the gravitational forces are equal and oppositely directed.

The inverse-square law of gravitation is very interesting especially from the standpoint of we who are trying to penetrate space. It offers an almost insuperable barrier while we are on or near the Earth's surface, but let us get away from the Earth's surface by as little as three or four radii and gravity becomes a much smaller problem. In fact when we consider the satellite we shall see that even a few hundred miles above the Earth's surface if we are established in an orbit, gravity, because we have velocity to counter it, loses its terrors.

When looked at close to the Earth, when "r" is only a little greater than "R", gravity is truly an awesome barrier, but this bogeyman weakens hurriedly with increases in "r".

From the equation which describes the vector force-field and from its integrated version which describes the potential energy of objects in that field it is easy to compute the amount of energy needed to move around in it. Again, near the Earth's surface, enormous amounts of work must be done to lift objects in a gravitational field to any heights above

the surface. Farther out of course, because of the inverse-square law, little energy is required.

From a theoretical point of view we can thus rise against the confining barrier of the gravitational field by doing work at any rate we please. One can climb stairs slowly as well as rapidly, and the power to do the former is very much less than that required to do the latter. So, if a rocket engine existed which could traverse space slowly, even though it would require tremendous amounts of energy to supply it, it could in principle convey us to the Moon and the planets.

Unfortunately the only machine capable of being used is a conventional rocket engine; this can supply the necessary energy to do work against gravity but it must do it all in one short burst in order to work with any efficiency at all. It is this fact which leads naturally to consideration of "escape velocity."

The gigantic quantity of energy to carry an object from the surface of the Earth to the point where the gravitational force is minute (the infinity—the limit of an integral) must all be given the object in the few brief minutes that the rocket motor runs. The energy is supplied in one vast shove or thrust.

As a result, in the few moments

when energy is being given the object, it must acquire a high velocity. This velocity can easily be determined by equating the work required to lift the object from  $R$ , the radius of the Earth, to infinity, to the kinetic energy of the object. A simple calculation shows that this initial velocity must be about twenty-five thousand miles an hour. Lesser initial velocities will permit the object to fall back to Earth.

This is not the whole story of course.

Bodies can be sustained in orbits or trajectories around the Earth with lesser velocities provided those velocities are directed. If we hurl an object *straight* into the heavens with a velocity less than escape velocity, it will crash back to Earth. But if, as in a satellite launching, a portion of the rocket thrust carries the satellite to a given altitude and then the remainder of the thrust is used to supply a tangential velocity, that satellite will subscribe to an elliptical path with the Earth at one of the foci of the ellipse.

An object which is a satellite of Earth behaves exactly analagous to a bucket being whirled on the end of a rope. The rope is gravity and the reason the object orbits is that the gravitational attraction (the force) is exactly balanced by

the so-called centrifugal force of the object caused by its angular velocity. Just as a bucket on the end of a short rope must be whirled faster to stay in its path, so must a celestial object move faster in a short orbit. This is evident when you consider that the sum of the object's kinetic energy of motion and its potential energy of position in the gravitational field must equal some constant amount. Decrease one, the velocity, and you increase the elliptical radii at which it will orbit.

The fundamental reason for this behavior can be adduced from considering two things: these are the equations describing a central force-field and the differential equation of motion of an object. From these equations, given initial conditions such as velocity, the resultant path can at once be written. An interesting fact emerges when the solutions of the equations of motion are made. The paths must be conic sections, that is, the only permissible paths are geometric figures derived from the cone. The circle, ellipse, parabola, hyperbola are the only allowed paths except for the straight line which is merely a degenerate conic section.

It is all-important to consider interplanetary travel in terms of conic sections; this requirement is imposed on us by the fact that the objects, vehicles, bodies, or

space-ships are powered by rockets. The *endurance* of thrusts they can provide is low. Everything in space is done in terms of velocities supplied by momentary thrusts. After the thrust has ceased, natural law takes over and the bodies must behave basic mathematical rules, the major one of which is that describing the restriction of motion to the ellipse.

If some imaginary atomic engine of inexhaustible thrust were available, all of this would be changed of course, because then, whatever the costs in energy, atomic power could provide them, and the paths would then be as straightforward as driving from here to there.

FOR SOME TIME to come, the basic laws of celestial mechanics applying to unpowered objects, will apply to spaceships. The immutable laws of gravity can be changed in no way; short-cutting them requires—no pun intended—astronomical amounts of power. That this power eventually will be available is unquestionable, but for the present, conic sections mark the tempo.

Thus far we have been discussing only the gravitational field associated with the Earth. Why have we been ignoring the far greater field of the Sun?

The answer is not difficult to present. We are working at such distances from the Sun that the changes in potential energy required to traverse distances of a few hundred Earth-radii are negligible. It is another case of the inverse-square law providing encouragement when the "r", this time "r" from the Sun, is large. We are so remote from the Sun in terms of energy changes that hypothetical Moon-trips are affected very little.

On the other hand when interplanetary trips are contemplated these energy changes are by no means insignificant. An Earth-Mars journey or an Earth-Venus journey must take account of the Sun's potential. If trips to these planets are contemplated without landing, the energy changes, usually expressed in terms of velocities, are of small account, easily supplied by the fuels we use presently. Planetary landings of course bring us right back to the same severe conditions we encounter in trying to break away from the Earth. And to these conditions we add the additional potential energies required to traverse the Sun's substantial gravitational field.

Perhaps the heart of a discussion like this lies in the unquestionable fact that lifting bodies from planets is many orders of effort harder

than moving between planets. Planetary journeys are of little immediate concern since we are primarily interested in simply getting *away* from the surface of the Earth and this problem is a hundred times more difficult from the energy standpoint than any foreseeable interplanetary trips.

Arthur C. Clarke, the noted British writer on rocketry was supplied with a particularly felicitous analogy by a friend, an analogy which illustrates the problem of the climb against a gravitational field better than any other. He points out that when the potential formula is used to calculate the amount of work needed to raise a body from the Earth to the point where gravity is negligible, (infinity—half a million or a million miles if you like) this work is the same as that required to raise the object through a *constant* field of one Earth- $g$ , the distance of one Earth-radius—four thousand miles.

This suggests that if we like, we can think of the problem of overcoming the Earth's intense gravitational field as being equivalent to that of people located at the bottom of a pit or hole four thousand miles deep, whose desire is to escape from that pit!

If this pit is visualized as tapered or sloping, something like a funnel, it is possible to draw the analogy

even finer. While an object would have to be thrown upward from the pit with an initial velocity of 25,000 miles per hour to escape from it, lesser velocities would produce the equivalent of orbiting satellites, that is, a body thrown up the pit wall with a velocity of say eighteen thousand miles per hour, would not necessarily fall back into the pit, but could be given a direction such that it would circle around the pit at about a height of fifteen hundred miles from the bottom of the pit in either a circular or elliptical path just as would a real satellite under similar conditions.

This pit analogy clearly demonstrates the awesome magnitude of the problem of leaving our planet by means of impulsive, momentary rocket thrusts, that is, initial velocities. The fact that we are well on the way toward achieving solutions to these problems is encouraging. That the engineering talent and technique is available to convert these theoretical principles into accomplished fact, is a tribute to the human beings at the bottom of that incredible pit.

We move ordinarily through such a small range of heights that it is difficult for us to imagine quite what an inverse-square gravitational field is like, but the constant-gravitational field is one with which we *are* familiar, and the pit analogy

is clear evidence of the tremendous accomplishment that hurling an object from the Earth represents.

Sometimes it is suggested that the whole problem of opposing the Earth's gravitational field will vanish with the scientific discovery of a "gravity-shield", as H.G. Wells described his "Cavorite" in his famous novel of the first men in the Moon. Such a substance, a material which could "cancel" so to speak the Earth's gravitational field, is an impossibility simply because it represents a violation of the law of conservation of energy-matter. To rise against a gravitational field, definite known amounts of work must be done, that is, energy must be expended. These hypothetical shielding materials are all described as static substances with the magical property of "shielding" an object from gravitational attraction.

On the other hand a logical extension of this idea is conceivable. When the theoretical physicists learn more about the intimate nature of nuclear bonding forces, and when something is learned about the "what" of gravity rather than the present "how", then it is imaginable that an engine or machine could be built which would "neutralize" or overcome gravity with the *expenditure of the necessary and equivalent amount of energy!*

This concept constitutes no violation of natural law. It is possible. But at present it seems remote although it is not too wise to say that, especially when it is known how closely we are coming to the use of the fusion of hydrogen to supply inexhaustible power.

At present gravity must be overcome with the rocket motor and with chemical fuels. The means are at hand and they are being used. No esoteric principles are involved. In fact Newtonian mechanics, his law of universal gravitation, with an aside to Kepler's laws—these principles are sufficient to astro-gate the Solar System.

It is hardly necessary to provide any supporting arguments for a like venture in view of what has happened and what is about to happen. Men are going into space, they are going to explore the Solar System and perhaps eventually the stars, for no other reason than that they are men.

On the entrance to Fine Hall at Princeton are inscribed Einstein's words "*Raffiniert ist der Herr Gott, aber Boshaft ist Er nicht*"—"God is subtle but He is not malicious." When contemplating the apparently overwhelming and awe-inspiring difficulties that the fierce gravitational field of the Earth offers, it is well to keep these wise words in mind.



Space drives are tricky affairs and when they go out of whack you've got to head for the nearest planet for repairs. We did, finding a —

# Ghost World

by

*A. Bertram Chandler*

OUR LANDING on Weldon—third world of the planetary system of Alpha Gruis—was unscheduled. No ships ever called at Weldon any more, it had dropped from its importance—never a great one—in the scheme of interstellar commerce with the exhaustion of its mineral resources. Man had come. Man had gutted the planet of its wealth. Man had left.

We hoped that the spaceport was still in a fit state for a landing. We hoped that the supplies of spare parts, of repair equipment, had not deteriorated too badly with the passage of the years. We hoped that the Pilot Book—according to which large quantities of such material had been left behind, as a cheaper alternative to its being shipped to a “live” planet—was not lying.

We could, of course, have hoped that our Drive would hold out un-

til we reached the busy, prosperous worlds of the Centaurian system, to which we were bound. We could have done so—and, in all probability, made one of the swelling number of ships listed as *Overdue. Believed Lost*. Nobody is quite sure what happens when the Mannschen Drive gets out of control—according to some authorities one is slung into the remote past, according to others one finishes up in the remote future. They agree on one point—there's no returning.

I'm no technician, but I had been uneasily aware for some time that all was not well with the intricacy of spinning, precessing wheels that is the Drive. The note—which should be high, steady, almost supersonic—wavered, at times deepening to a low hum, at times rising painfully above normal aural range. And, with almost every action, there was the haunt-



ing sense of familiarity, the feeling of I've-done-this-before.

I was trying to check freight lists, and not making much of a job of it, when the buzzer of my telephone sounded. I picked up the instrument.

It was the Old Man on the other end.

"Mr. Rayner," he said, "come up to Control, will you?"

I wasn't sorry to leave my papers. I unbuckled myself from my chair, pulled myself out from my office to the axial shaft, caught the guide-line and pulled myself towards the nose—and the brains—of the ship. On the way I passed a few of the passengers and I could see that they, like me, were aware that something was wrong. I didn't stop to answer their questions which, even though I didn't know the answers, was rather foolish of me.

When I reached the Control Room it was obvious that some sort of conference was in progress. The Old Man was there, looking even more worried than the Master of an interstellar ship usually looks; I swear that the lines on his face had deepened, that his hair had become appreciably greyer in the few hours since I had last seen him. Caulfield, the Navigator, was there; the wrinkles on his brow seemed to be spreading

up and over his glistening bald scalp. Welles, the Drive Engineer, was there, looking as miserable as only a fat man can look.

"All right, Mr. Welles," the Old Man was saying. "So you can't make repairs in Space. You *think* that you can keep the Drive running for two more days, ship's time, but no longer."

"That's the strength of it, Captain," said Welles sullenly.

"Weldon's our best chance, sir," said Caulfield. "A ghost planet, but, according to the book, it has a breathable atmosphere, no lethal extremes of temperature and, even better, a stock of spares. The planet was evacuated when the mines closed down but, as there are no inquisitive natives, we have every reason to hope that we shall find the stocks intact."

"Weldon it has to be," said the Old Man. "You, Mr. Welles, will have to keep the Drive running for three more days." He turned and saw me. "You, Mr. Rayner, will inform the passengers. Whatever you do, don't frighten them."

"On the intercom, sir?" I asked, reaching for the microphone.

"No. Of all the instruments devised by man for spreading panic the loudspeaker's the worst. The customers know that there's something wrong. An authoritative, reassuring statement over the inter-

com will be anything but reassuring. We want the personal touch—and that's the Purser's job. Circulate, Mr. Rayner. Tell them that everything's under control. Tell them how lucky they are to get a look at a ghost planet—and all for free. Blind them with science . . ."

"But I don't know anything about the Drive, sir."

"Neither do they. Off you go, now. We're going to be very busy here until we arrive. *If* we arrive."

IT'S HARD to be reassuring if you're feeling very badly in need of reassurance yourself. I was remembering all the horrid stories I'd heard of ships—and people—being turned inside out with a malfunctioning of the Drive. I was wondering which would be preferable—being marooned in the remote past or the remote future—and was not wildly enthusiastic about either prospect. I was wondering what would be the best line of approach to take with the passengers.

They were gathered in the Lounge—all twenty four of them. They knew that there was something wrong; the behaviour of the Mannschen Drive had worsened since I had left my office. They looked at me with mingled distrust and distaste—my uniform made me one of *Them*, one of the

rulers of this little world who had failed, lamentably, in their duties.

"I hope you aren't worried," I said brightly.

My answer was a growl such as one would expect from the jungle, not from a gathering of allegedly civilised human beings.

"When do we take to the boats?" asked one of the men, a burly individual called Petheridge.

"We do not take to the boats," I told him. "The boats can not be used in interstellar space, only in the vicinity of planetary systems. But I did not come here to tell you that. I came here with good news."

"So they've fixed the Drive," said Miss Hall, a tall, angular spinster. "It doesn't sound like it, young man."

"I'm afraid that the Drive has not been fixed," I admitted. "Not yet. But there is no danger. Anyhow—here is the *good* news. You'll all of you have heard of the ghost planets—worlds that have been exploited and then abandoned. We're headed towards such a world now - Weldon, otherwise Alpha Gruis III. The mines were worked out all of fifty Earth years ago . . ."

"*Why* are we going there?" asked Petheridge.

I tried to smile brightly. "I *could* say that we're going there

to give all you people the opportunity, which very few travellers ever get, to look at a ghost planet. I *could* say that, but I won't. Even so, you'll be very foolish not to make the most of the opportunity. The reason, however, is this. There are large stocks of spares and repair equipment at the spaceport. We shall make use of them."

"Suits me," said Susan Willoughby.

"I am pleased that *somebody* can afford the delay," remarked Miss Hall acidly.

"The delay, I hope, will be to my financial advantage," replied the girl sweetly.

"Why, Miss Willoughby?" I asked—although I had guessed the reason. Her profession, as listed on her passport, was that of writer.

"Local color," she said. "My next novel's going to be about one of the mining planets—the first discovery, the prospecting, the exploitation and, finally, the decay."

"So long as *someone's* happy," snapped Miss Hall.

"I don't see why we shouldn't all be happy," said Petheridge suddenly. "As the Purser has told us, this is a chance that comes to very few people. We shall be fools not to make the most of it fools not to make the most of it make the most of it most of it . . ." He paused, then said, "I seem to be

repeating myself."

"You will," said Miss Hall, "until somebody repairs the Drive."

I returned her glare.

"I'm sorry," I told her, "but I'm the Purser, not a Drive Engineer."

"Have we got one aboard?" she asked.

"I'm sorry," I told her, "but I'm the Purser, not a Drive Engineer."

"Have we got one aboard?" she asked.

"I'm sorry," I began.

"Must we have all that again?" she demanded.

"Not if I can help it," I said. "All I can do, ladies and gentlemen, is to assure you that there is no danger and that everything is well in hand. You will all—we shall all—suffer slight inconvenience until repairs have been effected. I trust that you will be able to endure this inconvenience for another three days. It will be no longer.

"Should any of you require any further information, I shall be in my office. Thank you."

SUSAN Willoughby came into my office while I was trying to check the freight lists.

She said, "Men amuse me."

I looked up from my papers. She was better worth looking at than they were—that is, if you like

redheaded women. Some people don't; I do.

She said again, "Men amuse me."

I said, "I heard you the first time, Miss Willoughby. Of course, things being as they are, you may have actually said it only once."

"I said it twice."

"Then why do men amuse you?"

"Their passion for routine work in the face of catastrophe."

"If there's any catastrophe in here, you must have brought it in yourself," I said, joking feebly.

"I can see it all," she said half to herself. "The Captain daren't come to see us himself, or send one of his executive officers. They—and he—all know too much. They wouldn't have been able to lie convincingly. You, knowing nothing, could lie. I heard Mary Hall talking to Bill Etheridge. 'It can't be really serious,' she was saying. 'Mr. Rayner was a little worried, but he wasn't frightened—and he's the kind that scares easily . . .'"

"Thank you," I said.

She said, "I hope we do come through. This'll be first class material—and so will be the ghost planet. If we get there."

"We shall," I said.

She ignored this.

"I've done quite a lot of research into the various losses of interstellar ships. Most of them seem

to have been due to Drive failure. Did you hear about Mitsubishi's discovery on Antares VII?"

"Who's Mitsubishi?" I asked.

"The archaeologist. He discovered what must have been the remains of a spaceship, all of fifty thousand years old. There was a mass of corroded machinery that could have been, that must have been . . ."

"What?" I asked.

"A Mannschen Drive Unit."

"Some race, fifty thousand years ago, had interstellar travel."

"That's possible," she admitted. "But the other solution is possible, too. Correct me if I'm wrong. Remember that I'm a writer, not a physicist. The principle of the Drive is precession—precession in Time as well as in Space. Thanks to those fancy gyroscopes that aren't, at the moment, behaving too well, the ship goes astern, as it were, in Time while going ahead in Space . . ."

"You know as much as I do," I said. "I'm only the Purser."

"What a pity that the temporal precession can't be used to drive a Time Machine," she murmured. "As you know, historical novels are my specialty. If one could be on the Moon to watch Corderey's landing—the first man to set foot on a world other than his own! If one could witness the early strug-

gles of the Martian colony!"

"Once you have Time Travel," I said, "you have paradox."

"And what's wrong with paradox?" she demanded.

"Nothing—except that you just can't have it. You just can't have people going back in Time and murdering their grandfathers."

"I admit," she said sweetly, "that it's not done."

We both laughed.

**T**HE DRIVE held out until we made planetfall.

Weldon lay below us—a grey-green globe, with wide white belts of cloud—when we flickered into normal Space-Time. Landing, we knew, would be a protracted business—the last Survey ship that had been in the vicinity of the planet had reported that the automatic beacon was no longer functioning. We should, therefore, have to circle Weldon until our telescopes picked up the city—also called Weldon. Whether or not this task would be easy would depend upon how much the buildings were overgrown by the native plant life.

Things went surprisingly smoothly.

On our third circuit of the planet we picked up the city. All that remained then was the stern-first dropping through the atmosphere,

our speed adjusted to match the speed of rotation of the planet so that, in effect, we achieved a vertical descent. All, I say—but it wasn't as simple as that. What had been the daylight hemisphere at the beginning of landing operations became, inevitably, the night side. There were no lights to guide us.

We seemed, too, to be bringing the bad weather with us. We commenced our long fall from a cloudless sky; the latter part of it was through driving rain and, if the drift indicators were to be believed, gale force winds. When, at last, we touched the wet concrete we were enveloped in clouds of steam of our own making as our rocket exhausts vaporised the deep pools and puddles that had collected on the apron.

When the steam had cleared there was not much more to see. Dimly, through the driving rain, loomed a low huddle of buildings. There were no lights, no signs of life. We hadn't been expecting any, but this did not make the overall effect any the less depressing.

"Landing has been accomplished," I said into the microphone through which I had been delivering a running commentary to the passengers and crew. "Landing has been accomplished. Repairs will be put in hand at once."

"Mr. Rayner," said the Old Man coldly, "by whose authority did you make that last rash promise? Even you must realize that Mr. Caulfield, Mr. Welles and myself have been three days and nights without sleep, and the other officers are in little better case. Repairs will be put in hand as soon as I see fit."

"Even so, sir," put in Caulfield, "there's no reason why we shouldn't investigate the stores around the spaceport, get some idea of what materials we shall have to work with."

"In the morning," said the Captain. "Or the afternoon. Or whenever we wake up. We're far too tired to do any work on the Mannschen Drive unit—the state we're in now we couldn't reassemble a cheap alarm clock without having at least six parts left over. Mr. Rayner—amend your message."

"Attention, please," I said. "Here is an amendment. Repairs will be put in hand as soon as possible."

There was nothing further for me to do in the Control Room; the necessary entries in the Official Log I would make in my own office. I slid down the guide-line in the axial shaft, disdaining the ladder rungs. I stopped for a brief word with those passengers who were still in the Lounge. Most of them had turned in, finding the

gravity tiring after the weeks of Free Fall.

Susan Willoughby followed me into the office.

"Men," she said, "amuse me. This passion for routine."

"I always," I said, "make it a practice to get this sort of thing clewed up as soon as possible after arrival."

"Interstellar vessel *Delta Cygni*," she read aloud, peering over my shoulder. "Arrival at Port Weldon, on Weldon, Alpha Gruis III. Time, G.M.T. Subjective: 0545 hrs. Time, Local . . ." She laughed "What is the local time, James?"

"Search me, Susan," I admitted.

"But you must put something in, mustn't you? You must do it now. The ghostly Port Doctor, accompanied by the spectral Immigration Officer and the phantom Customs Officials will be boarding at any time now . . ."

I listened to the wind whose howling, even through our insulated plating, I could hear. I decided that I did not envy the cadets, who would be standing airlock watch throughout what remained of the night.

"You know," she said, "I'd like to be the first, James. Well, not *the* first—but the first after fifty years. Do you think. . .?"

"No," I said.

"Why not?"



"The Old Man hasn't granted shore leave."

"But he hasn't *not* granted shore leave."

"Anyhow—the ship's not cleared inwards."

"By whom, James? By whom? It seems to me—of course, I'm no authority on interstellar law—that you've done all the clearing possible with your Log Book entries."

I remembered, then, Caulfield's suggestion that an immediate investigation be made of what facilities for repair and replacement the spaceport offered. If I were able to greet my superiors, when they at last awakened, with a neat list of the contents of storerooms and workshops they would have to admit that I had made a material contribution towards getting the ship under way once more for the Centaurian system.

"Do you want a job?" I asked Susan. "Acting Temporary Purser's Pup, Unpaid?"

"Doing what? Helping you make silly entries in the Log Book?"

"No." I told her my scheme.

"I'm with you," she said, "on one condition—that you let me first out of the ship."

SUSAN WENT to her cabin and I climbed the shaft up to the officers' flat. Nobody—excepting, of course, myself—was awake in

the accommodation. I collected a heavy raincoat and a powerful torch. Pen and notebook I stuck into my pockets almost as an after-thought.

Susan was waiting for me in the Lounge when I got down. She, too, had dressed against the weather. She, too, was carrying a torch. She was talking with Miss Hall and Etheridge.

"I think you're crazy, Miss Wiloughby," the spinster was saying. "And that Purser boyfriend of yours is crazier."

"I rather wish that I were going with them," said Etheridge.

"Then you're crazy too."

"All right—we're all crazy." He noticed me. "Just one thing I'd like to ask, Rayner. Are there any dangerous animals on this planet?"

"None—according to the Pilot Book."

"Even so," he said, "fifty years is a long time. There were probably a few domestic animals left, inadvertently, at the time of the evacuation. Cats, perhaps, and dogs. You'd better take this—I don't suppose that the ship carries any firearms."

"No," I said, "we don't. But I can use a pistol. Thanks a lot."

I took the heavy automatic from him, checked the magazine, then slid it into my pocket.

"The odds are that you won't

need it," said Etheridge.

"I should think not!" snapped Mary Hall.

We said goodnight to them, descended the companionway to the airlock. The cadet on duty was reluctant to let us out, but finally did so when I made him admit that no orders had been issued about restriction of shore leave.

As I had promised, I let Susan first down the ramp. She staggered as the wind caught her, and the beam of her torch waved wildly. A second or so later I was by her side, and, heads down, we were pushing through the wind and the freezing rain towards the nearer of the low buildings. As we approached it we found ourselves in a lee, for which we were grateful. The beams of our torches were reflected from rows of windows, all of which seemed to be intact. Almost directly ahead of us was a door.

It wasn't locked-but fifty years is a long time. We got it open at last, the protesting shriek of the long idle hinges audible even above the howling wind. I cried out as I saw two glowing green eyes in the darkness-then laughed. The owner of the eyes was only a cat, a Ter-ran cat-lean and wild, a reversion to its savage ancestors, but nothing to be afraid of.

"Puss!" I said. "Puss! Pretty Pussy!"

The animal swore at me and made off.

We were in a passageway, and we advanced along it with caution. We opened, without much trouble, the first door that we came to on our right. The room behind it must have been an office of some kind-there were stools and there were desks and filing cabinets. On one of the desks was an open book-a ledger of some kind.

"We'll see what the last entry was," said Susan, shining her torch on to the yellowed pages.

*Already this is a ghost planet. There is still life, the city still lives, the spaceport is busy as the ships come in to take off personnel and such equipment as is worth the expense of shipping out and away. But today I saw a ghost—two ghosts. I saw them in broad daylight. Ghosts of the pioneers, they must have been—some long dead prospector and his wife, returned to see the ending of the dream that once was theirs, of which they were once a part. A man and a woman they were, dressed in heavy outdoor clothing. Each of them carried a torch—or so it seemed. The man carried a pistol as well, in his right hand.*

*I was in the main equipment storeroom, checking the Mannschen Drive units. The orders are that they are to be left here, so that*

*any ship in trouble on the Centaurian run can put into Port Welton for spares and repairs. I was applying the coat of oil that should last, if necessary, a hundred years or more.*

*Suddenly, I heard a man's voice say. "That's the one."*

*I looked up. They—the ghosts—were standing there. I don't know for how long they had been there, but I am certain that they had not come through the door, which I was facing as I worked. There was this man—an ordinary looking sort of fellow with brown hair and the rather striking redhaired woman. The man pointed his pistol at me.*

*"You," he said, "you left the safety clamps off the main rotor."*

*"What if I did?" I asked.*

*"Make sure that they're on," he ordered. "Tight."*

*"It's no business of yours," I told him.*

*"It is," he said. "Take the pistol," he said to the woman. "If he tries to interfere, shoot."*

*I didn't know that they were ghosts. I stood still, and watched the man tighten the clamps on the main rotor. And then—they were gone. Both of them. Vanished.*

*I'm leaving this here in the office. Sooner or later a ship will be coming in for repairs. This is just to let you—whoever you are—know that the main equipment*

*storeroom is haunted.*

"Some people," said Susan, "have—or had—a weird sense of humor."

"Shall we find the main equipment storeroom?" I asked. "Are you afraid of the ghosts?"

"Of course not," she said. "And if there are ghosts, it's all material."

SO WE FOUND the main equipment storeroom. It was easy enough—on the wall of the office in which we had found the ledger with its odd entry there was a plan of the spaceport buildings. We didn't find any ghosts in the storeroom—but we found the dogs.

Six of them there were—huge brutes, with something in them of Alsatian and something of mastiff, and they were fierce and they were hungry. Luckily—I had half believed the ghost story—I had shifted my torch to my left hand and held the pistol—cocked, and with the safety catch off—in my right. I fired when they rushed us, killing one of the brutes. The others—all save one—turned tail and bolted.

I emptied my magazine at the one who did not run. My last shot must have wounded him—even so, he was on me, and bore me down, his jaws at my throat. I tried to fight him off, but it was a losing struggle. He was strong. Then,

suddenly, he collapsed on me—dead. By the light from my torch—which was still burning—I saw Susan standing over us. Her own torch was out. It had never been designed for use as a club.

"Thanks," I said inadequately.

She pulled the stinking carcass off me, helped me to my feet.

I shone the beam of my torch around the storeroom, fearing further attack from the surviving dogs. They might well, I thought, be lurking behind the machines, gathering their courage for a fresh attack.

Then, somehow, I became interested in the machines themselves. The only ones that I was able to identify were the Mannschen Drive units—there was no mistaking that complexity of gleaming wheels that, even in rest, seemed to draw the eye down unimaginable vistas. Several of my bullets, I saw, had hit the nearer of the Drive units. One bullet—there was no mistaking that bright, silvery splash of metal—had struck the rim of the main rotor or a glancing blow.

Suppose the wheel had turned, I thought. Suppose the wheel had turned. . . Suppose that, somehow, a temporal field had been set up. . . What would have happened? Nothing—according to widely publicised laboratory experiments. Or—to judge from the rumors one heard

of other experiments that were given no publicity—quite a lot.

The thought of what might have happened scared me. I blessed the technician who had set up the safety clamps tightly enough to hold the rotor immobile, even under the impact of a bullet.

But. . .

I remembered the absurd entry in the ledger in that deserted office.

*Who had tightened those clamps?*

I'VE BEEN WRITING this to pass the time for the remainder of the voyage. I have to pass the time somehow. Rayner the Leper—that's me. I'm in bad with the Old Man and the senior officers, and once *that* happens aboard any ship you might as well pack your bags. The Captain has not forgiven me—I don't think he ever will—for disturbing his sleep that night; the duty cadet sounded the General alarm when he heard the shooting inside the spaceport buildings. All in all, I shan't be sorry to arrive at Port Austral. I've asked for a transfer and I pay off there.

What really does hurt is the lack of any sympathy from Susan Wilmoughby. I think I'm entitled to it, but I'm not getting it. She had a long session with Welles and Caulfield, apparently, and thinks that she knows *all* about the Mannschen

Drive now. She thinks that if those clamps had not been tightened, if the main rotor had turned, she and I would have gone back in Time, would have found ourselves in Port Weldon at the time of the evacuation of the planet—and that, she says, would have been material of a kind that comes once in a lifetime, if then.

I raised the point of the impossibility of our returning to our own Time—except by the slow way—and she said that it didn't matter, that good writing sells no matter when it's written. I pointed out that she had held the pistol on the technician while I tightened the clamps.

"But," she said, "*I* can't remember it."

"No," I said, "you can't—because it never happened. But it *would* have happened if I hadn't tightened those clamps."

"So you admit it," she flared. "I'll never forgive you for it!"

And that was that.

When I first got to know her I had allowed myself to dream, to hope that a casual, shipboard acquaintanceship might develop into something more permanent.

That's all over now—and all because I'm haunted by my own ghost!

—It's back there on a planet in deep space. And I can't help wondering if I'll ever be tightening those clamps again—for another ship putting in for repairs. Most of all I wonder if I'll be on it. . . .



## Applied Research



THE distinction between pure and applied scientific research is becoming less and less sharp. As the esoteric tools of the physicist's lab and the technician's workshop come into prominence, industry, realizing the accomplishments to be made with them, puts them to work.

Two decades back, it was the fashion of observers of the industrial scene to remark on the tremendous lag that existed between discoveries in science and technology, and their application to indus-

try. Not so today.

As fast as some idea, even the most abstruse, comes into prominence, some gimlet-eyed, determined entrepreneur is ready to put it to work for everyone's mutual profit.

Where Sonar was a submarine detection system, today no well-equipped fisherman would be without the apparatus, at least if he's fishing commercially. Radar is much the same. While still we think of it primarily in connection with airports, the sea-going have put it

to work; even surveying is aided.

A few years ago the atomic pile came into being. Today they are building power plants! The rocket and its development is reflected in improved combustion processes and

metal alloys.

This happy concurrence of affairs augurs golden years ahead from the viewpoint of all. The labs pour out information—we use it! And in an endless stream.



"Nice shot."

Running out of gas is always awkward when  
You're taking a long trip. But this time I was  
lucky, for when I least expected it I found a —

# Refueling Station

by

*Rog Phillips*

THE TROUBLE WAS, I only had a two weeks vacation and I wanted to drive all the way to Los Angeles from Chicago.

I mentally kicked myself for not having filled the tank the night before. Should I drive back to the nearest town and wait for a station to open? I decided to take a chance and keep going.

It was a narrow winding blacktop road, with thick Indiana trees and vegetation forming a wall on either side, and now and then a bridge passing over a small stream. The gas gauge settled to the zero mark, and I searched the road ahead worriedly for a gas station. If I found one I would stop, and if it wasn't open I would just sit there until it was.

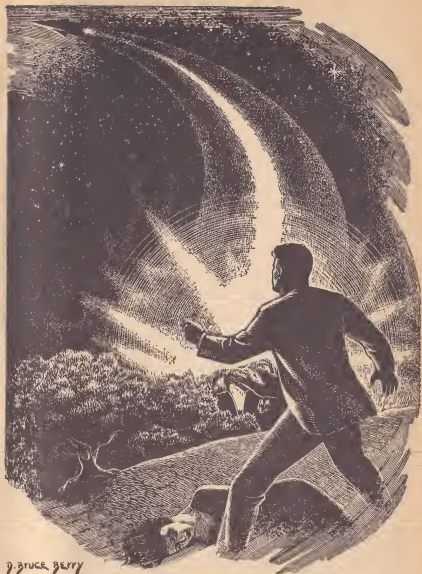
At a little rise in the road I felt a sudden drag, then the motor picked up. The first symptom of running out of gas. It did it again just before I topped the rise. I

quickly stepped on the clutch to preserve my momentum as the motor died. I was going three miles an hour as I reached the top and a downgrade.

And then I saw it. It wasn't a service station, exactly. A repair garage. The sign over the front, weatherbeaten and about ready to fall off, said RED STAR WELDING. Rusted and half dismantled farm machinery lay here and there in the open area around the red brick building.

By the time I reached it I had picked up enough momentum on the downgrade to coast up the slight incline to the front of the place. There was no sign of a gas pump anywhere.

I got out of the car and tried the small door set into the large sliding doors. It was locked. I peered in through the dust coated window, receiving my first sign of encouragement. The interior had the



J. BRUCE BERRY



look of a functioning shop. I could see no one, but there was a huge tank against one wall, welding equipment, a couple of pieces of farm equipment that didn't look neglected. And after a minute came the sound of an air compressor starting up.

I rubbed my hands together. I was in business again, or would be just as soon as someone showed up.

But when would that be? Half an hour? Not until noon? I went exploring.

**T**HE PATH led from the back door of the garage into the thick overgrowth. Probably it only led to an outhouse, but I had to find out. I followed it.

It went about ten yards and ended. Just like that. The brush ahead was, I found out, too thick to push through. I became slightly exasperated. The path was well worn, as though someone passed along it several times a day. Closer examination showed that someone frequently used an ax to cut back the brush and keep the path clear—to the point where it stopped.

But I could see no use for the path. Would anyone just have a path to walk into the brush for ten yards, turn around, and come back out? That's what I did. I couldn't do anything else.

I went around to the front of

the building again, and rattled the door, shouting, "Anyone in there?"

There was no response. I headed toward the back door to make another futile attempt at arousing someone—and saw the girl emerge from the path that led to nowhere.

"Hello!" she said, looking surprised and slightly alarmed. Her voice had the downstate accent. She had on a neat but far from new print dress that neither hid nor revealed her slim figure. She was perhaps twenty-two or three, with regular features and no make-up, her blond hair neatly combed and medium long, but showing no evidence of ever receiving the miracle hair treatments that sponsor half the TV programs. She did have a nice smile though, and any dental cream would have liked to have taken the credit for her teeth.

"Hello!" I answered. "I ran out of gas. No one seems to be around."

She looked doubtful. "We don't . . ." she said vaguely.

"Look," I said. "I'm just starting on a long trip to California. I'm out of gas. Surely you must have a little somewhere around. If you could let me have a gallon or two to take me to a service station . . . My car's just out front."

"Well . . ." she said reluctantly. "My—ah—mechanic won't be

ready to start work for a little bit. Would you like a cup of coffee?"

"Okay," I said.

"Come with me then," she said, and turned to enter the dead end path.

I opened my mouth to say something about the path, then, filled with curiosity, followed her without saying anything. By the time we had gone ten yards I realized that somehow, the other time, I had missed the main path. The path was curving quite noticeably, and very shortly we stepped into a clearing with a small house in it.

We went in the back door, into the kitchen. A coffee percolator was perking loudly as we came in. The girl poured me a cup and excused herself.

She left the kitchen, and when she came back there was a man with her. He was normal from ground level up to and including the eyebrows. From there on up he reminded me of a misconception I had had when I was little.

Maybe you had the same misconception when you were little, concerning stovepipe hats. I had thought that men who wore them had heads to fill them.

"Your car's in front of the shop?" he asked. "Give me your keys and I'll fix you up. Just keep your seat, finish your coffee."

"Well, all right," I said, giving him the keys.

After he went out the girl leaned backwards against the kitchen sink and watched me, with no more interest than necessary. I smiled at her and took another sip of coffee.

"Good coffee," I said enthusiastically.

"Uh huh," she said.

So I sipped my coffee, and ten minutes later the man came back.

"I filled your tank," he said, handing me the keys. "It should last you quite a spell."

"Thanks," I said, getting up. "How much do I owe you?"

He looked blank, then turned to the girl.

"How much do you usually pay?" she asked quickly.

It clicked then. That strange head. The poor guy . . .

"Well," I said, looking up at the ceiling for some mental arithmetic, "At thirty cents a gallon, for sixteen gallons, that would be very close to five dollars." I took out my billfold and extracted a five dollar bill.

The girl came over and took it. "Thanks," she said.

I started toward the door. Neither of them made any move to follow me. At the doorway I turned to say goodbye. The girl stood in the same spot where I had left

her, the five dollar bill still in her hand. The man stood near the sink.

"Thanks again," I said. They just nodded, so I turned and left.

On the way back along the path I tried to find where the fork in the path was that had led me off the first time. I couldn't find it.

I dismissed the whole thing from my mind and hurried to my car. A few minutes later I was miles away.

AT PEORIA I took 116 to Burlington where I picked up 34. I stopped for some lunch at Ottumwa. After lunch when I started the car I checked the mileage. It would be time to fill the tank again pretty soon. I looked at the gauge. The needle was stuck on full.

Half a block away was a gas station. I pulled in and asked the attendant to see how much gas I had. He stuck a measuring stick in the tank, put the cap back on, and said, "Plenty of gas, mister."

Creston was two hundred and eighty miles beyond Ottumwa. At Creston I got a stick and stuck it in the tank. There was no doubt about it. The tank was still full.

I had driven four hundred miles.

I sniffed at the wet part of the stick. It smelled like gasoline.

I shrugged and got back in the

car.

At the Mississippi I stayed south of Omaha and hit U.S. 6 at Lincoln, where I stopped at a motel for the night. The tank was still full.

I couldn't get to sleep.

There could be all sorts of explanations. That tall headed mechanic could be some kind of a practical joker who didn't mind wasting money on a practical joke. He could have fastened extra gas tanks full of gas under the chassis—with enough gas to go for six or eight hundred miles—and disconnected the regular gas tank so it would remain full.

Or could he have done something to the carburetor that would improve the mileage? Not *that* much! Or could he? Was he some kind of a genius?

Sleep sneaked up on me sometime during the night. After breakfast in the morning I looked under the car. No extra tanks. I lifted the hood. No bright new gadgets stuck on the motor anywhere.

I stopped at the first service station I found open and got a grease job. While the car was in the air I traced the gas line from the tank to the carburetor. It hadn't been tampered with.

When the car was back down the attendant asked me if I needed gas.

"No," I said. Then inspiration

hit me. "I'll tell you what, though," I said. "I like to carry an emergency can on a long trip, just in case I forget and run out of gas. Got one you could sell me?"

He did. I drove away with a two gallon can of gas in the trunk compartment, "just in case." After that I settled down to enjoy my vacation. I wouldn't bother with the gas until I ran out. Then I would put the extra two gallons in the tank and drive to the next service station and fill up.

I had dinner in Denver and pushed on over the mountains.

I was getting used to my gas gauge pointing to full all the time now.

This was high altitude country, the Continental Divide. I drove along thinking about that full tank of gas. Or was it gasoline? It would smell like gas, because even water would smell like gas coming out of a gas tank.

How much power had it taken to get this far on the trip? As I drove along I did a little idle figuring on the problem. I had gone about thirteen hundred miles now, and should have used better than seventy gallons of gas.

The needle was still pressed against the full peg. Assuming I had used *some* of whatever was in the gas tank, I had used less than two gallons—if that tall headed

mechanic had filled the tank right up to the top of the inlet. Less than a gallon, otherwise.

Let's say two gallons. Then the stuff, whatever it was, was thirty-five times more powerful than ordinary gasoline.

I thought of it swishing around back there in the gas tank, and began to get a little worried. Then I thought the thing through and realized there was probably nothing to worry about. Whatever it was, it undoubtedly combined with oxygen, and without oxygen it was as safe as gasoline.

But—thirty-five times more powerful than gasoline! What could be that powerful? The government was trying out new fuels in connection with missiles for outer space. Had I, perhaps, stumbled on some disguised experimental station connected with that work?

I thought of the path that went nowhere when I was alone on it, then to a house when that girl led the way. The dead end had been genuine enough, but if camouflage had been used along the path to hide branching paths, there could be brush covered frames at several places along the path concealing other branches, and when the girl had come out that first time she could have swung one of them across that dead end path too, so

that there seemed to be only one path. An ingenious and very effective method of concealment!

*But why had this superfuel been put in my tank?*

And why didn't it blow up the motor?

THE ANSWER to that came to me shortly. No matter how much of the stuff you tried to explode, only enough of it to combine with the available oxygen in the combustion chamber could burn.

I got more answers before reaching Los Angeles. At Las Vegas I stayed at a motel and spent a couple of hours going over the motor. I soon learned something quite interesting. The carburetor showed evidence of having been recently taken apart. I took it apart too—enough to discover that a new needle valve had been put in it, one that couldn't feed enough ordinary gasoline to turn the motor over.

The other thing I learned was quite accidental. To keep from losing any of the strange fuel, I let it drip into an old tin can that had a little water in it, not bothering to dry the can out. I discovered that the water floated on top. With gas it does just the opposite.

I had been looking forward to Las Vegas, but now that I was

there I couldn't enjoy it. I wanted to get to Los Angeles so I could really go to work on the fuel.

Munching no-doze tablets, I drove all night. As I left Burbank and entered Los Angeles, the gas gauge needle broke away from the full peg for the first time!

So I had been getting over a thousand miles to the gallon. . .

My mother and sister were happy to see me. We talked while they fed me breakfast. Sis had to hurry off to work, and ten minutes after she left I was asleep, after making sure Mom would wake me at noon.

At noon I went shopping, and by three o'clock I was laying out some newly acquired lab stuff in the garage. Also a good fire extinguisher.

Leaving the car in the driveway, I siphoned off a full quart of the stuff in the gas tank, and took it into my improvised lab.

Its specific gravity was 6.4, which automatically eliminated all known hydrocarbons. I thought of finding its boiling point but couldn't work up the nerve. Too many things could go wrong.

Finally I took an inch of string and dipped it into the fuel, then took the string out onto the driveway and lit a match to it. I should have been more cautious. I was engulfed in flame before I knew

it. It was gone the next instant, but Mom came running out of the house, filled with alarm. She said the flames had shot up twenty feet, and if the police saw it she would be fined under the anti-smog laws.

A one inch long piece of string soaked with the stuff had done that! I looked at the garage, the house, and decided it was too dangerous to experiment with the stuff here. Maybe it was too dangerous period! How could I ever make a chemical analysis?

It came to me suddenly, and I slapped my forehead for my stupidity. The exhaust gasses from the car, of course! Here I had had a ready made way of converting the dangerous unknown liquid into stable products for analysis all the time!

With the equipment I had already bought I could make some of the tests.

I went to work on it, and by six o'clock I had definitely established the fact no carbon monoxide was present in the exhaust, very little carbon di-oxide—probably only that which was normally present in the atmosphere—and also the fact that no oxygen was in the exhaust. These were just rough tests, but quite positive.

Sis came home then and Mom had supper ready, so I called it a day. Good old hamburger cakes,

brown gravy, and mashed potatoes the way only mom could make them. That alone had been worth coming two thousand miles for! But Sis was wearing a sly expression for all to see, and finally could contain herself no longer.

"Put on your glad rags after supper, Frank," she said. "A friend of mine who has been wanting to meet you is coming over."

"Man, woman, or child?" I asked suspiciously.

"That's right," she said smugly.

"Maybe he doesn't want to meet her," Mom said. "Maybe he already has a girl in Chicago. Do you, Frank?"

I opened my lips to say no, and suddenly I remembered the girl at that country garage. Why should I think of her now? She had not impressed me when I saw her.

"N-no . . ." I said. "Nothing definite, anyway."

Sis' girl friend arrived shortly after. Her name was Mable and she was real fun, but somehow I couldn't get interested, and I began to realize before the evening was over that I couldn't have worked up an interest in Miss America herself. I was being haunted by a face. An ordinary face.

I was remembering her as she stood there where the path came out of the bushes when I first saw

her. I was remembering everything. The way she poured coffee for me, the way she leaned back against the kitchen sink.

It was crazy. There hadn't been a thing there, but now, suddenly, I couldn't get her out of my head! I made a good attempt though, for Sis' sake, and Mable had a ball.

The next morning I went to work in earnest on analyzing the mystery fuel. In three days I had the answer. An impossible answer, but it had to be true.

FIRST I found out that the only seeming exhaust product coming out of the tail pipe of my car was water vapor. The fuel seemed to break down into nothing but hydrogen, which combined with the oxygen in the air.

I knew there had to be something else. It was chemically impossible for the fuel to be polyatomic hydrogen. Yet, by the end of the first of those three days, I had definitely established that nothing else was coming out of the tail pipe.

Mable arrived again, this time with Sis, directly from work.

All night I kept telling myself, "There has to be something else!"

Mable had a good time.

The next morning I took a drastic step. I took the car to a muffler place and had them put on a

completely new exhaust assembly, and brought the old one back with me. I had reasoned that there had to be something else, and since it wasn't coming out of the tail pipe it was being deposited inside. There should be traces of it, since two gallons of the fuel had deposited its waste products inside the pipe and muffler.

There was. It was a filmy deposit, bright red in color. I spent the day with tin snips and hacksaw to cut and spread out the metal so that I could get at the red film and peel it free. At the end of the day I had accumulated a teaspoon full of it.

That teaspoon full of the red stuff weighed a little over four pounds.

Mable came home with Sis again. After supper Sis complained of a headache, and after some violent whispering between Sis and Mom in the kitchen Mom announced she had a headache too. I wondered why Mable didn't take the hint and go home. Instead, she turned on the television. We sat and watched the program for a while, then I got the idea. The way to get rid of Mable was to get a headache.

I rubbed my forehead vaguely, and frowned. "I'm getting a headache myself," I said.

That proved to be a mistake.

Mable had a sure cure for headaches. She came over beside me and started stroking my head. To keep her from doing that I had to hold her hands and insist that the headache had gone. I couldn't have gotten my hands loose without hurting Mable's feelings, so we sat there holding hands while she watched television and was soon dosing off so I had to sort of hold her up, and I kept wondering about that bright red stuff.

It was undoubtedly heavier than lead, heavier even than uranium. How high on the atomic scale was it? I knew only one thing for sure about it, it combined with hydrogen—but in what proportions? And would it combine directly, under heat? If so, it should be easy to determine the proportions. Mable seemed asleep, so I gently disengaged myself from her and got pencil and paper to figure out the experiment. An electrode setup for generating the hydrogen, pass the hydrogen over the heated red stuff in a tube, and through a condenser setup to condense the liquid, with an outlet for the hydrogen to escape into the air. I sketched the setup, added improvements—and jumped half off the davenport when Mable sat up suddenly and said, very unladylike, “Oh for cripes sakes! I'm going home!”

By noon the next day I had the

experiment going. By five o'clock I had proven that one atom of the stuff combined with one hundred and four atoms of hydrogen formed the liquid.

Mable didn't come home with Sis. All during supper Sis would look at me, her lips twisted into quizzical smile.

After supper I announced that I was heading back to Chicago. I would take U.S. 66, I told them, and make side trips to the Grand Canyon and other places.

But the next morning when I left, I headed back the way I had come, and as fast as the law allowed.

**IT WAS AFTER DARK.** The familiar curves and small bridges unrolled past me in the light of the headlamps. I was numb with exhaustion. My hands had spells of trembling. I had to slow down and fight off spells of partial blindness.

Why had they given me sixteen gallons of their precious fuel? The only answer I could think of was to get rid of me. Why get rid of me? Because they would be gone before I could figure it all out and come back.

They would be gone. *She* would be gone.

I came to the spot where I had run out of gas. As the headlights



dipped down over the rise I saw the building with its sign, RED STAR WELDING.

I shut off the motor, and coasted off the road into the yard with its old rusted hulks of farm machinery, just as I had done that other time, long ago, and came to a stop in front of the darkened building.

In the silence crickets chirped. In the cloudless night sky were stars, and the moon looked down. From somewhere inside the building the air compressor started up.

I got out of the car.

I had taken my flashlight from the glove compartment. I turned it on and hurried around the building, my light boring a hole in the darkness.

I came to the path. I hurried along it until I came to the dead end, just as I knew I would. I examined the ground to make sure there was no camouflaged barrier. When I was sure there wasn't, I retraced my steps, examining the dense growth lining the path every inch of the way. I had gone only a few yards when I found it. It was clever, a shimmering something somewhat like a gate. It concealed the dead end path as neatly as it had hidden the other path.

I shut off the flashlight and stole forward. Soon I could see the lighted windows of the house.

I hesitated. Should I go boldly forward and knock? What would I say when the girl came to the door?

I decided to look in the window first. I went forward cautiously, circling the back porch toward the side window.

The blind was drawn, but there was a gap of perhaps half an inch at the bottom. I stooped down and looked through the gap into the kitchen.

There was no one there. There was the sink she had leaned against. The table where I had sat. The percolator on the table. The chairs.

The print dress she had worn was there, draped over the back of a chair. There was something peculiar about the way it hung, but it was partially concealed by the table top. But there was no mistaking that it was her dress.

With sudden decision I straightened up and left the window, going boldly to the back porch. I put my hand on the doorknob, hesitated, then turned it and pushed the door open.

I took one slow step that carried me inside. I stopped then, unable to go farther.

She was there. All I had ever seen of her. She was smiling. Her eyes were bright, full of life. Any dental cream manufacturer would

have been glad to take credit for her teeth.

Behind me, from the direction of the garage, came the sudden deafening, earth-rumbling roar of a thousand jet planes, followed by a high whine that grew rapidly more distant. I turned to look, and was blinded by an intense blue glow that became a streak rising into the sky. Then, far overhead, there was a blue rocket tail.

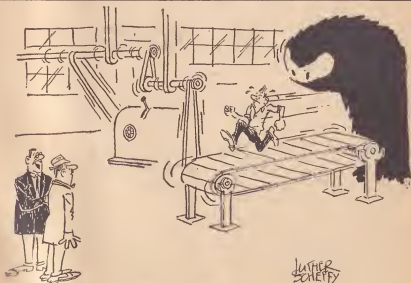
I turned back then to the kitchen, and stood there, closing the door.

She was there. All I had ever seen of her. All I would ever have of her.

She was draped over a kitchen chair, her head hanging downward. I went over to her and lifted her by the shoulders. She was very light.

She was just a cloak that something out of space had worn, so as not to alarm the sheep. Something—but what? It had been friendly and kind. I wanted to think that, whatever its species, it had been female and loveable, spiritually in tune with the cloak it had worn.

And while I watched, the sound of sirens grew, coming closer. And beyond the trees the red glow of the burning garage lit the sky.



"It's cut our power bill in half."



# The Fire Dancers

*by*

*Tom W. Harris*

NOBODY REALIZED IT then, and a good many people never did know it, but something quite important to all the colonies of the galaxy happened one night when a woman awoke from a sound sleep in her home on the planet Hamlet.

She was a farmer's wife and her name was Sally Donovan. She sat

up in bed, trying to place the sound that had awakened her. It was half-past ten. An occasional splash of light lapped against the windows of the cottage and in the woods she heard half-wild half-music that told her the inexplicable beings called fire dancers were still disporting themselves.



**Like most colonists they mistrusted any alien life-form. But they had much to learn, and the aliens had a means of teaching them!**

Her husband slept heavily, one muscular arm stretched across the blanket. The moonlight was very bright, for both moons were on their side of the planet, and she could see the callouses on his opened palm. She hated to wake him—Jack worked so hard, even harder than any of the others.

She would try by herself to find out what had awakened her. The sound had been familiar—that was a clue. And it was out of place in

the middle of the night. She tried to make her ears remember, trying to hear the sound again in her memory.

She gasped with realization. The sound had been the noise of the front door closing.

She jumped out of bed, slid her feet into worn slippers, and moved across the hall to the children's room. A quick glance told her all she had to know—neither Pete nor Annie were in their beds.

She ran back across the hall, sure, in passing, that she heard something move near the clothes rack by the door. She shook Jack.

"Whazzat?" mumbled Donovan. "I'm tired—um—hundred plants to drain today. Get Pete?"

"Jack—wake up—I heard something. And the nips aren't in their room."

He sat bolt upright. "What? You're sure?"

Before she could answer he had moved across the hall. When she entered the children's room he stood with a half smile. "If those aren't the nips in bed there—what are they?"

And there they were; Pete, ten years old, looking like his father even to the callouses on a small brown palm, and Annie, nearly nine, her sober little features pixie-touched with sleep.

Sally felt confused, and Jack could see it in her face. He knew she wasn't flighty. She was level-headed and reliable, the kind of wife a man would choose for the many-year's trip to the rough settlements on Hamlet, fourth planet of the Alpha Centauri suns. "Are you sure. . .?" he asked.

Before she could answer, something happened. Like an elf opening a tiny window, peeping out, and quickly shutting it, one of Annie's eyes opened, peeped at them and

flicked shut.

A peculiar feeling touched Sally; there was something in the glance of her daughter's eye which she didn't recognize, something different and even strange.

"They aren't asleep," whispered Jack. "They're pretending. They've been up."

He shook the children and made them sit up and talk. After a fruitless five minutes, during which Annie got a most annoying fit of giggles, he gave up.

"I can't get anything out of them," he said. "Let's get back to bed."

Although he would be up at four-thirty and in the fields at five, when the twin sun arose, he did not immediately want to go back to sleep. He and Sally sat on their bed and talked.

"If you heard the door shut, it might mean they've been outside," he said.

"Yes," she said. "It frightens me. I'm sure they weren't in their beds, and then they were."

"Maybe you didn't look closely enough the first time. How could they have gotten back in bed so fast?"

"They might have been hiding in the hall," she said.

"Um," he said. "On the other hand, they did act pretty sleepy. They must have been there all the

time. But, you know—I wonder. Pete's been acting sort of odd lately. Doesn't work so hard, for one thing."

"He's young to work," said Sally.

"Not out here he isn't. Five hours a day isn't too much for a boy when the men and women work ten or twelve. Out here everybody works. Have to. Lucky not to be on Ganymede, where I was raised. In those days we *really* worked."

HE WAS SILENT a moment, remembering Ganymede, the sullen moon of Jupiter. He was born there, under the domes. The domes were heated by methane brought from Jupiter and the atmosphere was artificial. Outside the domes you carried a machine to compress the starvation-thin air, and you moved clumsily in a suit heated against the 200-below-zero temperatures. He had never seen Earth except for the two-month tour financed by the government for all out-born adolescents. You worked, on Ganymede. Here on Hamlet you worked, too.

Life was hard but good. Life gave you a bundle of hard tasks. Living meant fulfilling those tasks; that was the way things were.

But Hamlet was unlike Ganymede in one particular—there was not the cramping of life beneath

the domes, and sometimes he missed that cramping and closeness. He strode to the window and stood looking out. The forests were dark wild tangles of things like cacti, fur, coral, sponges, and tall growths like maypoles with streamers hanging, and tiny tubes that shot out fibrous pellets that exploded into purple flowers. He was surrounded by open space and unknown things, and he shivered.

"You don't suppose they're going out into the woods, do you?"

"No." Sally's answer was as much a hope as an opinion. "They'd be scared to. Nobody knows what's in there."

"If they are, I'll tan their hides," he said.

"Some awful things have happened," she said. "Remember the people on Callisto? Something lurched them off in the middle of nowhere and when they found them they were hardly human; something awful had happened to them."

"We'll try to find out tomorrow," he said, "and I'll see to it they don't go out again. I wonder what would make 'em go out there? Maybe I'll talk with Stewart Russell."

"Do you have to?" Stewart Russell was the government coordinator of their settlement.

"Maybe not. It'd mean time away from the work. Of course

he'll be here tomorrow to tally drums, and we might have a loose minute or two—"

He crawled back into bed. "Well, enough talk for tonight. Tomorrow's going to be busy." He went to sleep.

Sally lay awake, watching the pale light that sometimes splashed the windows. She was puzzled by the unfamiliar something she had seen in her daughter's eye. It worried her. Also, somehow, it attracted her. As she dozed off she was still puzzling about it.

In the morning the regular buzzer detonated them out of sleep. Jack splashed cold water on his face (there had never been time to install the solar heat system) and ambled to the kitchen for his heavy breakfast.

At the edge of the pipe plant field he met Stewart Russell. Stewart was a young, lean man with snapping black hair, quick black eyes, and a face whose lines of humor and lightness were cut and crossed with lines of responsibility and work. In spite of his rank, Stewart had come down to work. An extra hand was needed, and on Hamlet no man could exempt himself from work. When the plants were tapped and draining well he would pass on to something elsewhere; in the evening he would return to tally the yield.

"It's a lovely morning," said Stewart.

"And a long day ahead," said Jack.

"Yes," said Stewart. "You know, you have a better view here than I have at my place—you wouldn't think a half mile would make the difference. Look at the mist in the woods—some of the fire-dancers are still up, the lights look like candles behind a curtain."

"I turned up dozens of them, sleeping in the daytime under those broad flat plants, when I cleared the place," said Jack. "Nuisances."

"They're supposed to have considerable intelligence," said Stewart. "One reason the law protects them."

"If they've got brains they don't use them," said Jack. "If it's all right with you, suppose we both ream and set taps till Sal comes out. Then you can tap and we'll drill."

"Drilling is hardest," said Stewart. "Let's let her set taps."

They used hand drills on the leather-tough hides of the pipe plants. "Someday," said Stewart, panting, "we'll have factories to make power tools for things like this. Hard work, hard work, and this place will begin to flourish."

"Yes, by joe," said Jack, "and we'll have mills to make power pumps for these damned growths

so we won't have to go back after two hours of draining and hug the things and pump the last half of the juice out with our own strength! One man will do a field ten times this size. Cesium sap will be run like water. Cesium will be cheap as iron, they'll have all they want on Earth and everywhere, and Hamlet will have plenty of people, and towns, and we'll chop out the wilderness!" Jack's eyes lighted; this was the only kind of talk that ever made them light. The people that he knew were almost all like him. Sometimes the earth-born, like Stewart, were a little different. Most people did not fool around admiring mist in the woods.

SOON SALLY CAME to help them, and by noon they had done half an acre. It was time for lunch. They trudged in, and as they entered the house Jack noticed a small object lying in a corner of the hall. Unobtrusively he picked it up, glanced at it, wrapped his bandanna around it and slipped it into his pocket.

They took half an hour for the dull lunch cooked by the regulex. The children returned from school.

"Do those nips look sleepy to you?" Sally asked Stewart across the table.

"I think they do," said Stewart. "Have they been working late,

Jack?"

"Um," said Jack. He didn't want to discuss it, especially in the children's presence.

Pete and Annie exchanged a stealthy glance.

"Stewart," said Sally, "does anybody know what's out in the woods?"

"Not really," said Russell, biting into a dark, potato-like tuber. "Place has only been settled about twenty five years, nobody's really had time to make any kind of thorough survey. Why?"

"Oh," said Sally, "we were—kind of discussing it."

"Didn't think you and Jack were the speculative types," smiled Stewart.

"Um," said Jack. "Time to get back to work. I need both you nips today. Stewart, you'll be back for a tally this evening?"

Russell said he would, and left, walking. He had a motor-scoot but rarely used it; fuel had to come all the way from Pluto.

The Donavans went to the fields.

Pete picked up his hand drill and Annie her basket of taps. They were well trained.

"Just a minute," said their father, and they stopped and looked at him and he pulled his bandanna from his pocket and unwrapped something.

"I found this in your room. It



comes from the woods. A hunk of woods dirt. From the shape I can tell it came off a shoe heel. I think you'd better tell me all about it."

The boy and girl stared at it as though it were a strange little animal seen for the first time, and Sally, watching, was sure she saw the merest flicker of something in the eyes of both of them.

"Well?" said Jack.

Pete scuffled his feet. "Maybe you found it outside."

Jack's face began to color. "Are you telling me I don't know where I found it? It was in the hall and it fits your heel. You tracked it in from the woods. Didn't you?"

Neither of the children spoke.

"You mustn't go into the woods, children, especially at night," said Sally. "The woods are dangerous. Bad things might get you."

Annie grinned. "There's nothing bad in the woods, Mother. The things in the woods are. . ." and Pete stumbled against her, as though he had lost his balance.

"The things in the woods are what?" boomed Jack. "And how do you know? Tell me the truth, girl!"

Annie stammered, frightened and confused.

"You can tell by looking," yelled Pete. "We know the woods are fun just by looking at them!"

Jack's face flushed darker than

cesium sap as he stepped toweringly toward them. "By thunder, I want the truth of this, or I'll whale you within an inch of your lives!" He was angrier than he had ever been in his life. His own children, putting frivolity and worse ahead of work, endangering themselves, telling lies! Every frustration and deprivation which he had stoically shoved out of consciousness came rushing toward the rip in his reserve, taking the form of anger toward these pipsqueaks. It was as though he released against the children all the stored anger and reaction from the pressures that drove him in his work.

He grabbed his son's shoulders, shaking him ferociously.

"Don't, Dad, don't!" the boy cried. Jack hardly heard him.

Then, suddenly, Sally was there, trying to force herself between him and the youngster, almost crying. "Stop! Jack, stop—get hold of yourself!"

Suddenly he loosed his hold and stood there with a dazed expression and mumbled something.

"I didn't know what—I guess I . . ."

"Jack," said his wife softly. "Jack, you don't need to do that. We can find out. We can find out tonight. But now there's the tapping and draining—right now we'd better get our work done, Jack."

"Yes," said Jack heavily. "I'm sorry. Let's get our work done." They went on with the work, and Jack worked as hard as ever but there was something strange about it. . . He was aware that he had to force himself.

THE FIRST SUN had already set by the time they had drained the last pipe, and they were tired. The gritty dust of the Hamlet soil was in their clothes and their pores and made red lines like veins of blood along the wrinkles of their skin. Stewart Russell tallied off the drain—twenty drums. It was a good crop, but they were all so tired that nobody commemorated the triumph with even a word.

When the children had gone to bed, after the boring meal of regulax-cooked food, Jack and Sally made their plan. It was simple. They would pretend to go to bed, but they would stay awake and listen. They would follow the children into the woods.

It seemed to Sally that in the eyes of both children, as she herded them tiredly to bed, was the indefinable spark that she had noted before. She stood outside their door for a few minutes, and they were whispering. She could catch nothing except Pete murmuring. ". . . I don't know what they call

it—there isn't any name for it. . . I guess it's bad, but we'll. . ."

Their voices slipped softer, and after awhile she tiptoed away. Jack had been sitting on the bed; now he had slumped over and was asleep. "Let him," she thought. "He needs it. I'll sit in the easy chair and stay awake.

She sat in the easy chair and fell asleep.

When she awoke the yellow moonlight was staining through the windows, the color of a fluid pressed from tallow. She woke with a start and a subtle pinching of terror that nipped her breath. Jack snored gently; otherwise the house was silent. Outside she heard the music in the woods.

She slipped off her slippers and glided barefoot and silent across the hall. The children's beds were empty.

She ran back, her feet thudding on the hand-hewn floor, and shook Jack violently. He sat up wide-awake.

She stared at him. "They're gone."

Neither of them said anything. They were already dressed except for their shoes. They put their shoes on rapidly. Jack took down a lantern and two shock-throwers, handing one of the little tubes to her. He went out into the moonlight and she followed.

He did not need to use the lantern, for the moonlight fell bright and yellow, illuminating everything and at the same time seeming to hush everything, soaking their world. The cultivated earth showed deep orange in this light, and the plants were light yellow, deep yellow, and purplish. The colors of their faces were enriched and weird.

There was only one dark place and only one place where there was sound. The woods. Far across the fields they lay like a bank of sooty fog, and inside were flashes like heat-lightning, and the music.

Quickly and silently they moved toward the dark pelt of the woods and as they entered the outskirts, passing beneath the steely reaches of a gigantic branching crystal, they were sure they heard another sound with the music.

"It's the children," said Sally. "I'm sure of it."

"They sound . . . different," whispered Jack. He listened. "But it's them."

They followed the sounds. The sounds and the lights were far ahead—the woods around Jack and Sally were deep in soft, insinuating shadow. Jack did not use the light. They worked slowly forward, feeling with their hands, watching as well as they could, and Jack turned to Sally. "There's a kind of

clear place—it's like a path. We'll follow it."

The path led toward the place of the sounds, and they could see, far ahead, the glint and flash of the lights.

Sally grabbed Jack's hand. "Wait!" she whispered. "Listen! Behind us!"

They stopped, keeping their breathing soft, listening.

There was nothing.

"It's all right," said Jack. "We have the shock-throws."

They went forward, but Sally trembled. She had heard, she was sure, a sound behind them like a series of low clicks.

The music was nearer, and it made them feel something they could not name. Neither mentioned the feeling to the other; each silently wrestled to clear it from their hearts. The feeling was frightening, but it was not fright. It was a dangerous lightness, a dissolving of purpose.

Only a few yards lay between them and the light and the sounds. They could hear their children's voices, making odd light sounds. Ahead was a thick tangle of things like mops. When they worked through these growths they could peep beyond and see whatever was there for them to see.

Behind them, Sally heard the odd, low clicking. Before she could

peak, something fluttered up from the bushes. It was a thing of innumerable filaments that radiated from a dark center which was connected to another dark center; the filaments lashed the air and they were ragged with little tufts like flags. Clicking, the thing flew straight toward Jack, one dark center stretched toward him, a long pointed organ projecting from it.

Jack whirled, raised his shocker, and fired. A rich pink flash enveloped the thing and it continued toward him. From the shocker there was a sound—huff!—like a man sucking his breath in sharply as Jack fired again. The creature did not swerve. Directly before his face it stopped, hanging in the air, and he stood rigid, staring into a tiny, glittering disk like an eye. The thing seemed to study him. It hung in the air, filaments whirling as time dragged by. Then it turned and glided off.

**THEY STARED** at each other like people who had come back from somewhere. Sally forced her lips and throat to work. "It—it was harmless," she whispered. "It didn't hurt us after all."

They stood another few seconds. "I hope the shocker didn't give us away," Jack said.

But the sounds and the light

were still there, in the little glade just ahead.

They crept among the mop-growths as silently as they could and peered through the final fringe.

They were looking into an open area where the ground was thick with springy, glinting fur. The glade was thick with the fire-dancers, writhing, twining, rolling and floating, gliding and whipping through the air, some fast, some slow, some spread out like flapping translucent sheets, others compact and brilliant in balls and rolling ovals. From them all, differing with each of their forms, came music, light soprano and deep thrumming, all individual but all in place in a pattern of sound.

Annie and Pete were there. They were leaping and cavorting among the fire-dancers, and where their feet thunked the glinting fur sent up showers of scented spores like minute gold fountains.

"What are they doing?" whispered Jack. "My God, what are they doing?"

Pete took two of the flapping fire-dancers and held them to his shoulders, leaping and running across the glade. "Look, Annie I'm a firebird! I'm flying!" The flaring sheets at the shoulder keened and fluted. He rolled them into a ball and threw them toward Annie.

She tried to catch them, missed, and they spun around and around her, separating from each other and stretching into glowing, spiraling strands.

Jack was horrified. He raised his shocker and pointed it, then stopped. For one thing, there was a law against attacking alien life-forms unless attacked by them. Also, he might render the community a service by getting a responsible witness to see what was going on here. Stewart Russell might be able to analyse the situation for future protection or other use.

He turned to Sally. "Go get Stewart," he whispered. "Hurry. Tell him to come on his scoot—if you hurry, he should be here in less than half an hour."

"But. . ."

"I'll stay and guard—don't worry. I don't think much new can happen to the kids in twenty minutes." He snicked the shocker catch. "Hurry."

She disappeared and Jack stayed watching, confused and repelled. He could find nothing like this in his memory; the actions of his children were unlike anything he could remember anywhere. "Unnatural" and "inhuman" were words that came to mind. There was something wrong here, and terrible.

The children burst out in un-

canny sounds, and once Jack raised his weapon toward a fire-dancer that enveloped Annie as though it were smothering her or injecting something insidious. But he couldn't fire without getting her too.

He stood watching, absorbed. It seemed as though much less than twenty minutes had passed when Stewart Russell tapped him lightly on the shoulder, out of breath, worried, and Sally with him.

"I wanted you to see this before I move in," said Jack.

Russell looked. The dancers had formed great glowing chains, wrapping about the children and lifting them into the air and rushing them, screaming and giggling, in long swoops across the glade.

The three adults stood looking for several minutes, and suddenly Russell grinned. "I don't think there's anything to worry about. You really don't know what's happening here?"

"I sure don't," said Jack.

"Your children and the fire-dancers are playing."

He had to repeat the word several times—"playing"—and then Jack said, "Maybe I'm not very well educated. What's this playing thing?"

So Stewart Russell, earth-born, had to explain it. It was something children like to do, he said, and it's good for them, and even good

for grownups. It's something done for the fun of doing it, as opposed to work, which is done to get a result. "Fantastic," said Russell. "I'd almost forgotten it myself. Out here the race itself seems to have forgotten it. You must have been to Earth once, Jack, everybody gets one trip. Don't you remember—children playing?"

"Playing," said Jack. "So that's playing."

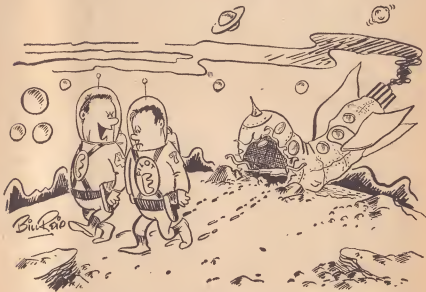
And Sally went into her memory, too, and she discovered what it was that had seemed so disturbing in the eyes of her daughter and so seductive in the woods music.

For awhile they each stood with their thoughts.

"You know," said Russell, "If it turns out the fire-dancers are harmless—and I think they are—I think I'll put some proposals before the settlement council, next session. What do you think, Jack?"

"It still seems pretty strange," said Jack. A burst of laughter swept out of the clearing and they all listened. "And still," said Jack, "there might be something to it."

And they got the children and went home, and a new element of living had been introduced, re-taught to humans by aliens.



"And to think I worried through the whole trip about the door being stuck!"

# Unknown Soldier Of Space

by

Robert Silverberg

**They call him a hero, this guy nobody can identify; but what makes a man a hero? Bravery? Yet who's really brave when death points a gun!**

**D**OWN IN THE BIG plaza facing the Hall of the Worlds in the System's Capital they've erected a monument to the Unknown Soldier of Space—a shining needle of milk-white irradiplast, bordered by lovely green lawns.

Someday I'll have to go down and see it. I don't get around much these days, but the trip might be worth it. They tell me there's a plaque mounted on the side of the monument, and they tell me the plaque reads this way:

## THE UNKNOWN SOLDIER OF SPACE

*Within this tomb lies the body of a man who fell in battle in 2106 during the Terran-Martian War. No one knows his name; no country claims him. He rests here for eternity, a brave man without a name, a symbol for all time of the many brave men who helped to bring peace to the System.*

I think that's a very pretty inscription, and as one of the "brave men" they're talking about — I was part of the Deimos Raid in 2106 — I'm pretty proud that one of my comrades is lying there representing us. But there's a special wrinkle to this thing that inclines me to travel down to the Capital and put a wreath on the Unknown Spaceman's tomb.

• You see, I happen to know who the Unknown Soldier of Space really was. I didn't speak up at the time his body was brought back, because I didn't see much to gain by revealing facts better off suppressed than revealed. The fellow who's buried under that irradiplast needle was named Joe Hammond. And it's funny that Joe Hammond should be picked as the symbol of our bravery — because Joe Hammond was probably the biggest coward the 103rd Spaceborne ever enrolled.



**J**OEY HAMMOND was a green recruit that spring of 2106 when we all trained for the big push against Mars. I was a two-year man, and in the Spaceborne then that was a pretty high seniority. We practiced maneuvers that year off the Main Orbiter, operating out of the Big Wheel and getting our space-legs.

That year the war had finally

broken out — on January 12, I think. The war had been on its way for at least a decade; friction between Mars and Earth had been unstoppable. And so for no good reason we found ourselves at war the morning of January 12, and the 103rd Spaceborne was activated.

Joe had joined just for kicks. I don't think he had ever expected



to get into battle. I remember how he looked the day we were packing up, leaving White Sands to go to the Orbiter for maneuvers.

He was a thin kid with dark oily skin, narrow flickering eyes, a ratty snout. This morning he looked greener than ever as he flittered around the barracks collecting his gear. Once he turned to me.

"Mort?"

"What is it, kid?" I was only two years older than Joey, but that gave me a tremendous boost in authority.

"Mort, you think this war thing is going to last?"

I shrugged. "Those Martians can be tough, y'know. I wouldn't be surprised if the war lasts for years."

"You mean we'll have to *fight*?"

"Looks that way," I said. "We'll be hitting the Wheel January 18. Three months' maneuvers and we're ready for combat April 18. If the war's not over by then we'll be in it, buster. Scared?"

"No, Mort, no," he said hastily. But a thousand nos wouldn't have changed the way his face looked. And his eyes and dry lips were answering, *Yes, yes, I'm scared witless* all the time his tongue was saying "No."

Joey, I knew, had joined the Spaceborne just to see the great

outdoors. He'd been suckered in by posters just at the wrong time. Many a kid joined up, served his three-year hitch, and got out—with something to tell his kids and his grandchildren and, if the geriatricians did a good job, his great-grandchildren. We were the unlucky ones who just managed to catch the Earth-Mars scrap, that's all. And Joey wasn't the only one that was scared.

Hell, no. Deep down inside us we were all cold purple with panic. No one knew too much about the Marties except that they were dried-out leathery squids on legs, and we didn't much care to tangle with them. That morning the whole 103rd Spaceborne knew what faced them, and there wasn't a man of us who didn't look a mite greener about the gill for it.

But we knew how to hide it. Joey didn't. And so we pretended to be brave, and walked around grinning with a gaiety we didn't feel, while Joey Hammond's knees clacked together in the terror we all shared.

**WE HIT THE WHEEL** on January 18, right on the button, and maneuvers started. We did a lot of buzzing around in space, learning how to make a ship spit death, how to gut a Martie two-manner on minimum

wattage, how to get the energy screens up before an enemy bolt cooked us. We were practicing to be killers, and the part didn't fit some of us.

A few of the boys took to it with vigor. Hart Crayden, Joey's leading persecutor, caught the knack of spacegunning and blew up so many practice craft on our dry runs that he was excused from further drill on the ground that he was fouling up the budget. I wasn't too bad either. Joey was a total dub — but he stayed. Give him credit; he didn't funk out. He stayed.

All this time we were getting word from Mars. Our boys had already made the big push; skirmishes were going on in the Intermundia, which was the fancy name they used for the big area of space between Mars and Earth. To date four of our ships had slipped through Mars lines and given it to their cities; Earth hadn't been touched, though Luna City got its dome smashed by a suicide raider one night and five thousand people died.

The Marties were getting thrown back, slowly but surely. Joey kept asking, "You think the war's goin' to be over before we get there?" He didn't even try to hide his feelings after a while.

"It better be wrapped up in three

weeks then," I told him. And then it was two weeks, and then one, and then it became obvious that it wouldn't be over till we got there.

By March of that year the Marties were really on the run. We'd obliterated the Phobos base almost entirely and a shrewdly placed fusion bomb had played hell with one of their icecaps, flooding territory that hardly knew what water was like. They were dying about twice as fast as we were — but our men were getting mowed down too. It was the bloodiest, ugliest war in the history of the universe — which may be the reason why there hasn't been even a whimper of trouble in the ninety years since the war ended. We haven't used up the supply of horror left from the last one.

Finally April 18 came, and the 103rd Spaceborne was pronounced ready for action. I thought Joey would have a fit when the news came.

But he didn't. He turned pale, but held his ground.

"We're going up there," he said hoarsely. "We're goin' to kill the Marties."

"Damn right we are," Hart Crayden roared. "We're going to blast the leather-skinned buggers right out of the sky!"

"We'll give it to 'em," someone

else shouted.

"Yeah!"

Our morale was the highest it had ever been — which, translated, meant that we were whooping it up more than ever, to conceal the fact that we were getting ready to put our lives on the firing line and pretty damned scared about it.

Joey didn't whoop. He sat on the edge of his hammock and looked spacesick. He obviously didn't feel much like killing Marties — and he sure as blazes didn't care to get killed himself.

**THE BIG PUSH** was on—the bombardment of Mars and its Deimos base with everything we could throw at them. The idea was to get the war over with in a hurry, before it wrecked Earth's economy forever. I forget how many billions of dollars a second it was costing us to keep fighting.

The 103rd got assigned to the Deimos Bombardment. Our job was to ring the Martian moon with a fleet of tiny two-man ships — Stingers, we were calling them — and attempt to penetrate the energy screens erected around the base. It was impossible for the Martians to defend and attack at once; every time they lowered the screens to fire at one of us, the rest of us would drive our beams through and do what damage we could. It

was slow, but it was working. We were winning.

As it worked out Joey Hammond and Hart Crayden were assigned to the same Stinger; I drew as my partner Lew Forsham, a colorless Oklahoman who operated a beamgun with tireless efficiency. Crayden grumbled a bit; he was our best gunner, though, and that was probably why he was assigned to our worst pilot — just to even out the peaks.

We left the Main Orbiter in formation, and space was dusty with the bright motes of our hundreds of ships. The 103rd Spaceborne was at last on the way.

We were in full radio contact with each other; I switched from ship to ship as I sat at my controls, talking first to one man, then another. We all knew that only half of us were coming back; the rest were sure to be atoms before the week was out.

Joey was the only man who wasn't bubbling with small talk. When I tuned him in he said, "Hi, Mort," and that was it. Behind him I heard Crayden grunt, "Say hello for me."

I tuned out. During the past weeks I had accepted more or less willingly the task of being Joey's guardian angel — but now, when my own life was being risked, I didn't care to be depressed by his

gloom. So I kept away from his band.

Just as the red gleam of Mars was swelling in our viewplates Joey tuned me in.

"There's Mars," he said. "We're really there."

I didn't know what to say. I kept quiet.

"Wish me luck, Mort," he said.

"Sure, Joey. Luck. Just keep back of the wheel and duck when the purple bolts go whizzing by." I managed a cold chuckle.

"Thanks, Mort." There was silence. Then: "Mort, I don't want to die!"

"None of us do, kid. We're all scared."

"You're just talking," he said, and tuned out.

I glanced out the screen. Mars was up ahead. Moving around it like goldfish round a whale was Objective Number One, goal for tonight.

Deimos.

**WE** SWEEPED INTO the battle formation we knew so well by now. A thick cloud of stingers surrounded the little globe of Deimos. The Martian defensive screens sparkled bluely at us, and a few Martie two-manners rose from the home world to attack us.

I saw bright beams lash out at the defenders and ash them. And

then the battle began — the Battle of Deimos.

The sky was illuminated with force-beams. Grimly we hung on, pouring the juice down on Deimos' screens, battering at the Martie outpost, giving all we had. I clung to my controls, feeling the sweat go pouring down my body, while at my side Gunner Forsham gave 'em hell. The ship throbbed as megawatt after megawatt of power barrelled into the Martian screens.

The tension grew. Around me from time to time a Stinger would wink out of being as a Martie beam would catch it and demoleculize it — but every time that happened our beams would smash mercilessly into the defense gap thus created. The net tightened. We drew closer. Closer.

Radio contact was blotched by static but we kept together, shouting encouragement at each other to keep up morale. I saw Joey's ship still with us, moving in and in.

The screen below us pulsed like a wounded elephant.

Forsham punched the firing stud again and again, jabbing down murderously. The Marties were giving ground. The tension was man-killing, but we were beating them.

Then a heatbeam licked up from down below and swept over us. I

felt the ship's refrigerant system groan as the beam caught us; I dodged and it went by. Forsham put a bolt where the beam was coming from and it stopped, but another rose.

Suddenly I heard Joey yelling, "They're cooking us! They're cooking us!"

Behind his voice came Crayden's grunt. "Get out of the beam, you idiot! They'll roast us if you don't dodge."

I went cold. I knew what had happened: Joey had frozen at the wheel, gone deadhead with fright, and his Stinger was caught smack in a heatbeam. Down on Deimos I knew some Martie gunner was having the time of his life pouring on the juice. A heatbeam was strictly a diversionary tactic, but if it stayed on a given ship long enough it could kill.

My suitmike brought the sound of struggling coming from Joe's ship. Crayden was obviously trying to get him away from the controls. I heard Joey yell, "I'm scared! I gotta get out! I gotta get out!"

"Look at the crazy guy," Forsham whispered harshly. And I looked.

Joey's ship was to my left at four o'clock. I saw the airlock open and a spacesuited figure come out. It was Joey. He was yelling, "I'm gonna get out of here."

I don't know where he thought he was going. He was crazy with fear.

He clung to the outside of his ship for a second, then put his boots against the skin and kicked away, swimming in the general direction of Earth. The heatbeam swung away from his Stinger and caught him for a fraction of a second. That was enough. That was more than enough.

"Hot!" he yelled, and choked off. He was cooked to a crisp in a second.

I heard Crayden, still inside the ship, mutter into the mike, "I'm out of control. Joey locked the drive and I can't get it unfrozen. I'm —"

And then he crashed. The ship hit Deimos Base's screen with a terrible impact, and in the moment of collision those of us who were left threw all the megawattage we could into those screens.

A YEAR LATER, when the Treaty had been signed, when the scarred and blasted wreckage of Mars was being rebuilt, and when the System was just beginning the peace that has lasted till this day and will probably last forever, I was mustered out with honors. A hero, they called me — along with all the others who survived, and those who didn't. No

one ever said anything about Joey Hammond's insane attempt to run away by getting out of his ship.

Years afterward, a Patrol ship found a body in a spacesuit orbiting around Mars. The body was blacked to a crisp, totally unrecognizable. Medics who worked over it couldn't identify it at all.

The spacesuit was in pretty good shape, though. It was identified as a 2106 model — and thus the man inside it was identified as a Terran soldier who had died nobly in the attack on Mars and who had been orbiting in space

ever since.

They were right except for one word — “nobly.” Because there wasn't much doubt who the man was, at least in my mind. It could only have been Joey Hammond.

They took him to the Capital and I hear they've built him a lovely monument.

So I guess it's all right. In a way he's a symbol of all the rest of us who lived or died that day. I think I'll make a trip to the Unknown Spaceman's tomb next week, if the doctors will let me. I think I'll bring Joey Hammond a wreath.



**"And if by some remote chance the engine should stop, we've rigged up a small piece of equipment that will enable you to maintain cruising speed."**



**A department for all our readers throughout the world; here you can meet new friends who are interested in the same things you are. Listings are free, so send in yours today!**

#### **STUDENT**

*Robert Carr:* 55 Lock St., Welland, Ont., Canada.

Age 15: "I'm interested in the serious thinking behind s-f—psi work, parallel worlds, time travel, the supernatural, and saucers. Hobbies include writing s-f, drawing, skin diving, jazz, acting, radio, and science."

#### **HOUSEWIFE**

*Onalie Hansen:* 1304 Prospect, SE, Grand Rapids 7, Mich.

Age 46: "My personal hobbies include collecting china and phonograph records. Like rock 'n roll with Tommy Sands having a slight edge. Other interests include astronomy, baseball, needle-point, and stock car racing. My husband and I are also interested in boats and may have a schooner of our own shortly. Have also studied ESP."

#### **HOTEL MANAGER**

*Frank H. LeMar:* 148 W. 74th St., New York, N.Y.

Age 35: "I'm assistant manager of a small hotel chain, with my s-f interest going back 20 years. My other major hobby is amateur radio. I'd like to hear from other fans—particularly on any science fiction subject."

#### **STUDENT**

*Molly O'Brien:* 639 W. Wilson Ave., Coolidge, Ariz.

Age 15: "I'm a high school freshman, interested in all fields of science, especially astronomy and meteorology. I collect stamps and postmarks, and enjoy chess. Have been reading s-f for 5 years and would enjoy exchanging ideas on flying saucers with any other teenagers."

## STUDENT

*Jeff Kosmo:* 943 Fairview, Bowling Green, Ohio.

Age 15: "I'm a chemistry bug, intending to become a chemical engineer and work with rockets. I have a four foot, liquid fuel rocket half completed; I play around with solid fuel ones also. Hope other s-f fans interested in chemistry and rockets will write."

## STUDENT

*Bob Butler:* Box 305, Luidoso, New Mex.

Age 17: "I'm interested in s-f radio, TV (electronics in general), cars, girls, reading & writing. Particularly hope to hear from other fans in my general geographical area."

## INTERVIEWER

*Richard Grant:* 2340 Covent Rd., Flint, Mich.

Age 22: "I'm single, and interview students for a dance studio. I'm interested in s-f, reincarnation, classical music, acting and modern interpretive dancing."

## COFFEE WORKER

*Leon J. Milcarek:* 842 Haddon Ave., Camden 3, N.J.

Age 20: "I'm employed with a popular brand coffee concern, interested in the possibilities of space travel, life on other planets, time travel, music and dancing. Would like to hear from guys and gals similarly interested."

## STUDENT NURSE

*Dorothy Diehl:* Nurses' Residence, Methodist Hospital, 506 6th St., Brooklyn 15, N.Y.

Age 17: "I'm in my first year of nurses training and am very interested in geriatrics. I'm a true s-f fan with a large collection. Other interests include music (all kinds, especially Calypso), modern art which I do not understand, and would like to hear from anyone interested."

## BEAUTICIAN

*Miss Stasiann Kozik:* RFD 2, Vitale Trail, Bound Brook, N.J.

Age 21: "By profession I'm a beautician. My hobbies include dancing, reading, swimming, roller and ice skating, traveling, and TV viewing! Hope to hear from other fans, particularly in the New Jersey area."

## BOOKKEEPER

*Margaret Ann Rodgers:* 347 W. Spazier Ave., Burbank, Cal.

Age 26: "I've been reading s-f for only nine months but love it. Would like to hear from guys and gals my age on s-f, books, or outdoor living. I'm a collector of stamps, coins, maps, bills, and paper-back s-f novels. Like sport minded people, with particular interest in horses. Hope to hear from others."

## STUDENT

*Mike Chial:* 2494 Harvester Ave.,



St. Paul 6, Minn.

Age 14: "I'm a high school student with major interests astronomy, mythology, ESP, and almost every kind of music. Would also like to play chess by mail."

## STUDENT

*Manuel Guerra*: 1790 E. 28th St., Lorain, Ohio.

Age 16: "I'm a high school student and work in the public library. My interests include s-f, astronomy, model railroading, chess, dancing, and collecting s-f books."

## STUDENT

*Sanford I. Greene*: 63 Parkview Rd., Elmsford, N.Y.

Age 20: "I'm a college junior, majoring in psychology and education. I've been reading s-f for six years and other interests include stamp collecting and playing chess by mail."

## SWEDISH FAN

*Sigfrid Bock*: Box 173, Polsboda, Sweden.

Age 14: "Please let your American fans know that I would like to hear from them. Am interested in s-f and astronomy."

## STUDENT

*Bruce W. Clark*: RD 2, Clay, N.Y.

Age 17: "I work as a stock boy in a store here and just recently became interested in s-f. Am also interested in stamps, hunting, fishing, swimming, and chess."

## RADIO ANNOUNCER

*Wes Fellows*: 612 13th St., Rawlins, Wyo.

Age 24: "I work as a radio announcer for KRAL in Rawlins. I enjoy hi-fi, photography, and radio. Would like to hear from other s-f fans interested in telepathy. Would someday like to create a radio program on same."

## STUDENT

*Steve Edelstein*: 2521 Glenview Rd., Glenview, Ill.

Age 15: "I'm a high school student interested in electronics. Also study ESP and would like to hear from guys and gals."

## STUDENT

*Ronald Smith*: 505 Imperial Ave., Modesto, Cal.

Age 17: "I'm a high school senior, interested in UFO, ESP, roller skating, archery and astronomy. Hope guys and dolls similarly inclined will write."

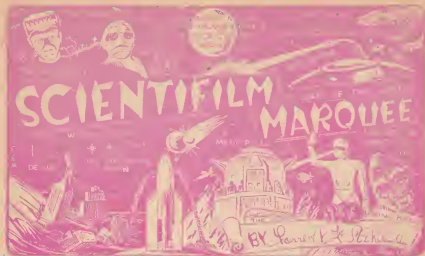
## COLLEGE STUDENT

*Frank Tepperman*: 1382 Shakespeare Ave., Bronx 52, N.Y.

Age 24: "I'm interested in ESP—all of its phases and fields involved—hypnosis, telepathy, and psychic phenomena. Enjoy books on photographic memory and general self-improvement. Hobbies include chess, boxing, and tropical fish. Am particularly interested in anything having to do with study of the mind and its powers."



**"How's that for a friendly planet?"**



**H**OW TO MAKE A MONSTER! So help me Mary Shelley! Cross my heads and hope to die before I see "Slan" on the screen if I'm not telling the truth, the whole truth and nothing but the truth. My witnesses to this horror-raising announcement included Richard Denning, Susan Cabot, Tom Conway, Gloria Castillo, Pat O'Brien, Michael (ex-Touch) Connors, John Agar and Roger Corman, themselves Hollywood personalities whom you will recognize as having been mainly associated with monster movies in the recent past (THE DAY THE WORLD ENDED, ATTACK OF THE SAUCERMEN, THE SHE-CREATURE, etc.). Revelation came during a party at the home of Alex Gordon, active scientifilm producer who will lead off this year with Frank Quottrocchi's THE PRO-

But—HOW TO MAKE A MONSTER! Shades of the original rejected man, FRANKENSTEIN. Consulting my Nostradamuscope, I predict a new cycle of how do its replacing whodunits: thrillers like HOW TO BE A DR. JEKYLL, HOW TO HYDE, HOW TO BE A WEREWOLF IN SHEEP'S CLOTHING, HOW TO GO TO BAT WITH A VAMPIRE, HOW TO BE A TEENAGE MUMMY, HOW TO BE A ROBO BLOCH and HOW TO MARRY A MILLION MONSTERS.

While we're on the subject of monsters (and this season it seems impossible to get off it) THE ASTOUNDING SHE-MONSTER is the final title for a film known while shooting as *Naked Invader*. THE VOLCANO MONSTERS will erupt from a script by Ib Melchior and Ed Watson. Maxim Productions,

getting back to basic-basic, have picked up an 1899 monster from a collection of short stories by Stephen Crane and will produce it under its original title of just plainly THE MONSTER.

There'll be a *She Demons*.

And a *Cat Goddess*.

And an *Attack of the Doll Creatures*.

Not to over look *The Fly*.

THE VILLAGE OF THE DAMNED is the new title for John Wyndham's British novel "The Midwich Cuckoos," scheduled for shooting by MGM.

I BURY THE LIVING will be the marquee title of Albert Garfinkle's horror film mentioned here previously as *Killer on the Wall*.

Henry Slesar's "Bottle Baby," at first to be filmed as *The Girl from 2 Million A.D.*, I reported as changed to *She Came from 5000 A.D.* last issue. In the interim it's undergone another title change: THE GIRL FROM 5,000,000 A.D.

Cinefilm will scientifilm THE MAN IN THE SATELLITE for Columbia release.

Attention Bill Warren: your complaint noted—why don't I list more Universal-International films. Frankly, I haven't been so baffled since I first ate a Battle bar. Do we live in two different worlds? Has U-1 released a 4th *Lagoon* film in Oregon, a *Son of Tarantula*, I *Saw the Invisible Man*, *The Unshrinkable Sanforized Man* or *Donovan's Brain Storms Again*? If so, I'm living in the wrong state: a state of amnesia. I offer a small challenge: if you can point out to

me any U-1 feature-length film of a fantastic nature released in the past 3 years that I failed to mention in SCIENTIFILM MARQUEE, the treat's on me for a year: any U-1 fanta-film (science or horror) that you see during 1958, send me your ticket stub and I'll reimburse you the cost of your theater entrance (price of popcorn or pop-sicles not included). And if you lose the bet, what do I want in exchange? Just your continued interest in the column—thanks for writing in to say you enjoy it.

As for reader Warren's other question, why I favor Paul Blaisdell over Bud Westmore: ask the same question of *LIFE*. I wonder how many of you realized, from following my column, that in the 2-page spread on monster films in the 11 Nov., 57 issue of *LIFE*, six of the 11 pix featured the artistry of sci-fi artist Blaisdell. (Tho let's not overlook Jack Pierce and Ray Harryhausen too, to whom we're indebted for many horripilating hours in darkened theaters.) The plain fact is that Blaisdell is making these days more monsters per square month than anybody else in Celluloid City, and so he naturally gets the play in this department. Incidentally, pick up a copy of *FAMOUS MONSTERS OF FILM-LAND* and you'll get to see what Blaisdell looks like in real life, along with his wife who helps him construct the Things-from-All-Over and a score or more of stills taking you behind the scenes in his workshop and showing secrets of monster-making from conception to completion.

**J**EROME BIXBY, the well-known author of some 60 sci-fi stories, has scripted IT for Peerless Productions. IT may be subtitled *Vampire from Outer Space* or *Maneater from Mars*. Creator of the Vampire/Maneater: er, Blaisdell.

Bixby has also scripted and sold a second scenario to Ed Small, **THE CURSE OF THE FACELESS MAN**.

Larry Maddock ("The Disembodied Man," *Madge*, April '54) has collaborated with Jack Seaman and Corrie Howard on a screenplay, **DEBBIE AND THE DEMON** (aka *Teenage Witch*). Grapevine has Martin Varno, talented young fan-about-town, on the inside track for casting as the Junior Demon in the production, who Maddock tells me, "gets hell in a world of a fix."

*Female Zombies* will be paired with *Space Girls*.

Douglas Fairbanks, Jr., plans to produce a version of the perennial favorite, **DR. JEKYLL & MR. HYDE**. John Barymore, Fredric March and Spencer Tracy have formerly essayed the title roles, and Leland Hayward the son.

**BARON MUNCHHAUSEN** and his amazing adventures will be brought to the screen by Communications Corp of America.

Seven monsters later, Boris Karloff returns to the role he originated in **FRANKENSTEIN**, 1960. Since 1932 Karloff, Lugosi, Chaney, Jr. and five other actors have played the role. Photos of all eight Frankenstein monsters accompany a 4000 word article on the character in **FAMOUS MONSTERS OF FILMLAND** magazine. Each reader

of **IMAGINATIVE TALES** will certainly want a copy of the latter, and since it is strictly limited to 300,000 copies it is suggested that you rush, do not run, to your nearest newsstand for your copy while the blood—I mean ink—is still fresh.

**RUNAWAY SATELLITE** has been scripted by actor George Becwar, who also has written a screen synopsis called *I Am Dracula's Daughter* and, with Bill Harlow, **WORLD WAR III**. Also getting into the auctorial act are actors Gil Frye and Jerrold Zinnamon with **THE EVIL EYE** and **THE "S" BOMB** respectively.

**DOCTOR DOOM** is the brainchild of collaborators Ron Kenner and Gene Coughlin . . . Brooke Peters, whose last was **THE UNEARTHLY**, will produce *Robotman, USA* . . . **THE GIANT BEHEMOTH** should get together with Frank Quattrocchi's **GIANT WOMAN** . . . Sci-Fi artist Burt Shonberry drew 750 pictures for storyboard of **THE KEEPERS** . . . After the Atom is the theme of Alan Ladd's production, *Island of Lost Women* . . . *Outer Space Daze* is a comedy short subject starring the 3 Stooges . . . Behind the innocuous title *Merry-go-round* lurks a supernatural western!

*My World Dies Screaming* (horror), **ESCAPE VELOCITY** (sci-fi), *The Transplanted Heart* (?), **THE MAN IN THE ROOF** (s.f. mystery), *The Man Who Died Twice* (?), **THIRD BARRIER** (sci-fi shock yarn by Van Cort from Collier's), *The 7th Voyage of Sinbad* (fantasy), **THE FLAME BAR-**

RIER (s.f.), *The Dreamers* (horror), *THE STONE MONSTERS* (s.f.-horror), *The Man Without A Body* (?), *THE SPACE CHILDREN* (s.l.), *High Vacuum* (s.f.), *MYSTERIOUS SATELLITE* (s.f.), *Wolves of Darkness* (lycanthropy, Jack Williamson), *ADAM & EVE* and *The Wandering Jew* are scheduled for, in production, or completed.

And now the BIG ONES: *The Night Creatures*. That's Richard Matheson's great future-vampire novel, "I Am Legend," scripted by Dick himself . . . *MANANA*, based on the Bradbury yarn "And the Rock Cried Out" by Ray himself, with two-thirds new material . . . *ON THE BEACH*, the best seller by Nevil Shute . . . *JOURNEY TO THE CENTER OF THE EARTH*, Jules Verne . . . *THE MAN WHO GREW YOUNGER* . . . Guy de Maupassant's *THE HORLA* . . . *NO BLADE OF GRASS* (end of all animal and vegetable life on earth threatened by John Christopher's virus) . . . *tom thumb* (Geo Pal) . . . *THE END OF THE WORLD* (in 1962, with only Harry Belafonte and two others left alive) . . . *21st CENTURY SUB* (aka "Dragon in the Sea" and "Under Pressure" by Frank Herbert) . . . *NEW WORLDS* (David Duncan) . . . and Herman Wouk's *THE LOMOKOME PAPERS*.

Watch Dick Miller in *WAR OF*

*THE SATELLITES*. He previously had small parts in *Not of This Earth* and *It Conquered the Earth*. Now he's co-starring. I first met Dick a couple of years ago in my own home when he came with a couple of s.f. manuscripts in hand. They were unpublishable, but at the rate Dick's climbing as an actor he's far better off financially than if he'd made it as a writer. And watch the work of his co-star, Susan Cabot. This is stellar material, tho the strange part is she's not so much interested in being a star as an operatic singer! An intelligent girl, Susan—could she be the daughter of Bruce "King Kong" Cabot? I forgot to ask—I met her at a party recently, and the second thing (the first, of course, was sci-fi) she had me talking about Esperanto, the artificial language. Before I was thru she made the remark she might learn the language and start a colony. This column hereby nominates Susan Cabot as Esperantist it would most like to go colonial with.

Quick thanks to informants Ed Spiegel, Don Grollman, Dick Daniels, Hans Siden and Bobbie Benson.

—Forrest J. Ackerman  
*SCIENTIFILM MARQUEE* is a regular feature. Columnist Ackerman may be contacted via the Beverly Hills, Calif., telephone exchange by interested contributors.

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# L etters

## from the R eaders

### COVER ERROR

Dear Bill Hamling:

After reading the January issue of TALES I had to write you and let you know how I like your magazine. I do!

STAY OUT OF SPACE!, RETURN TO PHONEYTOWN, TRAITOR LEGION, STRIKE THE FIRST BLOW, and VANISHING ACT were all very good stories. Matter of fact, all the stories I've read in issues of TALES have been good.

I would like to know how to get old copies of *Madge* and *Tales*. This is a small town and we don't have back issue stores.

Before I sign off, how come the goof on the cover? Flesh can't decay in space—where there is no air! Keep up SCIENTIFILM MARQUEE and, of course, the letter section.

Paul Shingleton, Jr.

320 26th St.

Dunbar, West Va.

*You're right about the cover, of course. We knew it was not tech-*

*nically accurate but we did feel artistic license was justified to get the dramatic point across. However, in the future we'll see that the scenes stick more closely to fact. For back issues of both MADGE and Tales note the handy coupon on page 129 of both magazines. All available back issues are listed there .....wlh*

### PRO "VIOLENCE" YARNS

Dear Mr. Hamling:

In reading the letter section I've been surprised at how many object to the "common subject of violence and death." Afterall, even a cursory glance at our own Earth history shows a preponderance of violence. Do these peace (?) loving readers presume that in the future man will do an abrupt about face and settle down to peace and quiet? Most people fear things—snakes, spiders, rats, or anything not like themselves. Not just because they may be hurt by them but because they do not understand them.

Therefore, it would seem that if

we should contact another world, and if the inhabitants appear "repulsive" we may try to eliminate them. Not true of all people, but probably the majority.

I'm not trying to sound pessimistic; to the contrary, I hope to be around when we do meet a few friendly aliens. All this leads up to my defending your stories which I feel depict our actions and attitudes quite well.

I do enjoy TALES and would only tell the critics of action yarns that if I wanted utter peace and quiet I'd go read a romance magazine. As it is I buy TALES because it is a challenge to the imagination.

I also agree with you on recent horror movies. I think they are an insult to people who would actually enjoy a good one.

Mrs. Elaine L. Cronin  
33 Capen St.  
Milton 87, Mass.

*When men land on another world and see an alien for the first time it is quite likely the meeting may not be pleasant, as you say. However, we imagine the space travelers will have been carefully selected to avoid conflicts. It's the "settlers" to follow that may pose the problem .....wlh*

## LOTS OF LAST

Dear Ed:

My opinion of your January issue stories is as follows: 1. RETURN TO PHONEYTOWN by Tom Harris; 2. STAY OUT OF SPACE! by Dwight Swain. The rest of the stories share the same spot—last. Choices 1 and 2 were very good

(even though the terrestrial hero in Swain's story was a muscle-man making too many heroic escapes).

Regarding your special features, I like them. SCIENTIFILM MARQUEE is the best since I always enjoy keeping up to date on what Hollywood is doing science fiction-wise. Your COSMIC PEN CLUB and letter department are always good too. But not the editorial! Oh, well, we all make mistakes.

Michael Chial  
2494 Harvester Ave.  
St. Paul 6, Minn.

*We're particularly pleased that you liked Harris' story so well. We thought this was a very fine yarn, and Tom shows a great deal of promise for a new writer. We'll be presenting more of his work as we go along this year. . . . We'll tell the guy who writes the editorial to get on the ball!.....wlh*

## PEN CLUB GRIPE

Dear Bill Hamling:

Just got the new TALES in the mail today and forthwith have a gripe and suggestion on same.

I suppose you get stacks of letters from readers wanting to join the COSMIC PEN CLUB. If so, why do you print the same names in both IMAGINATIVE TALES and IMAGINATION? This can be very annoying to people like me who buy both magazines and answer many of the fans who join the club. I'm sure if you printed different names in each magazine you could satisfy a lot more people.

Also, I think Burt Free has a great idea. Why doesn't Madge and Tales print novels about current



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movie hits like *Amazing* did with "20 Million Miles To Earth"?

Stony Barnes

Rt. 1, Box 1102

Grants Pass, Ore.

We run the same listings for the Pen Club in both magazines to allow each listing as wide an audience as possible. Everybody who reads *TALES* is not necessarily a *MADGE* steady, and vice versa. As to the movie stuff, most of the Hollywood material these days isn't good enough for a magazine feature! Anyway, we feel most of our readers prefer completely original stories .....wlh

### WHAT, NO GIRLS?

Dear Bill Hamling:

Hey! Again (January issue) *TALES* has a cover without a girl on it! Aren't you getting out of style?

I noticed that for a change you

also plugged the next lead novel in the issue. As far as I'm concerned, I'd rather guess about who the author will be. So drop the plug.

*STAY OUT OF SPACE!* looks quite interesting—haven't read it yet; tell Ed Hamilton to do a sequel to *FUGITIVE OF THE STARS* which appeared in the December *IMAGINATION*. Good yarn, that. Even among complete book-lengths it ranked very high—one of the best novels I've read.

*RETURN TO PHONEYTOWN* was a great story. Tom Harris seems to be getting better each issue now. Keep him writing like this!

*TRAITOR LEGION* by Silverberg was also good. Ditto Rog Phillips' *LEFTY BAKER'S NUT-HOUSE*. Rather weak, I thought, was *STRIKE THE FIRST BLOW!* But on the rebound then was *VANISHING ACT*. All in all, a good issue.

Jeff Wanshel

6 Beverly Pl.

Larchmont, N.Y.

So what's so unusual about not finding a girl on the front cover? If you go back over the whole file of both *MADGE* and *TALES* you'll find quite a few! Ok, we'll let you guess about the next lead novel next issue. And we agree on Tom Harris. Nice yarn .....wlh

### SOME YARN

Dear Bill Hamling:

The latest story by Dwight Swain (*STAY OUT OF SPACE!*) was really something. After reading it carefully I said to myself, now here

is a fellow who just might have done better than BRING BACK MY BRAIN! in the April '57 IMAGINATION. But the latter still gets my vote every time.

(Almost better than anything else, I might add, was Ed Hamilton's novel in the last IMAGINATION.)

James W. Ayers  
609 First St.  
Attalla, Ala.

*You've got a new Swain novel to rank this issue. And Ed Hamilton has some real top yarns on top. For both magazines .....wlh*

## TWO-TIME READER

Dear Bill Hamling:

Here's a report on both the latest IMAGINATION and the January TALES. I have just finished reading the issues twice and I must say the second time around was just as thrilling as the first. As a newcomer (me) I think that Dwight Swain's stories are excellent.

Look for my sub in the next mail!

Joseph Bradley

P.O. Box 62

Hainesport, N.J.

*Thanks. See you next month .....wlh*

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Isaac Asimov

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